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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

1971 ANNUAL REPORT
OF

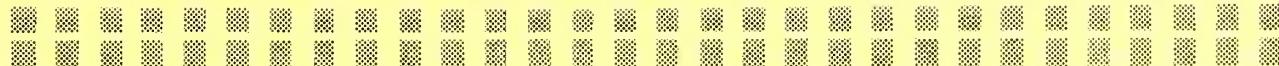
PLANT MATERIALS CENTER

COFFEEVILLE, MISSISSIPPI

PART 2, U. S. DEPT. OF AGRICULTURE,
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JAN 9 1973

PROCUREMENT SECTION
CULTURE SECTION



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TABLE OF CONTENTS

Introduction	1
Weather Summary	1
Assembly of Plant Materials	2
Supplemental Evaluations	3---16
Initial Increases of Selected Materials	16---25
Combine Settings for Seed Harvest	26---27
Notes and Special Problems	27
Pure Seed and Germination Percentages	28
Information: Publications	29
Initial Observational Ratings:	
Grasses, Legumes and Herbaceous Plants	30---53
Shrubs and Trees	54---62

Organization of the
Soil Conservation Service
Plant Materials Center
Coffeeville, Mississippi

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COFFEEVILLE PLANT MATERIALS CENTER

ANNUAL TECHNICAL REPORT

1971

PART II

This is a report of the technical activities of the Coffeeville Plant Materials Center for the calendar year 1971.

The Coffeeville Plant Materials Center is approximately seven miles west of Coffeeville, Mississippi on Tillatoba Road. It is in a loessial soil resource area and comprises about 195 acres of land leased from the U. S. Forest Service. A portion of the land under lease can not be effectively utilized because of the terrain. Principal soils are:

Waverly - Poorly drained acid bottom land, with 0-2 percent slope.

Grenada silt loam - Moderately well drained upland soil with gentle-to-steep slope. Erosion is moderate to severe.

Calloway silt loam - Somewhat poorly drained upland soil, mostly on a gentle slope. Erosion is moderate to severe.

Other soil types occur on the Center but in lesser amounts. The variation in terrain and soil types makes it possible to test plants under several conditions.

Weather Summary

Winter temperatures during 1970 and 1971 were near normal for the location. No severe or prolonged cold periods occurred. Likewise, summer temperatures were about normal during 1971. November and December 1971 were considerably warmer than usual.

A monthly rainfall chart is shown below:

January	5.08 inches	May	3.83 inches	September	1.42 inches
February	7.12 "	June	3.87 "	October	.70 "
March	9.38 "	July	5.76 "	November	1.35 "
April	4.95 "	August	3.33 "	December	5.87

Total rainfall for the year, 52.66 inches

Droughty conditions occurred during most of July, followed by above normal rainfall in late July and August. Fall conditions were dryer than normal.

I. Assembly of Plant Materials

A total of 283 accessions of plants was received by the by the Center in 1971. These plants have been, or will be, established in the initial observational nurseries. They will be observed for potential to solve conservation problems as listed below:

A. Streambank and/or reservoir levee erosion control.

Seventy-one accessions were received, including plants in the following genera: Arundinaria, Amorpha, Alnus, Salix, Panicum, Phragmites, Paspalum.

B. Erosion control on roadbanks and similar sites.

Forty-six accessions were received. Genera represented includes Panicum, Lolium, Themeda, Lespedeza, Arundinella, Polypogon.

C. Warm season forage production and/or erosion control.

Seventy-three accessions were received. These plants have potential for forage production and erosion control. Most of these plants are either Panicum or Hemarthria.

D. Cool season forage production and/or erosion control.

A total of 35 accessions was received, most of which were either Festuca or Bromus. These plants are being observed for potential to solve either or both of these conservation problems.

E. Wildlife food plants.

Twenty-four accessions of plants, which are believed to have merit as wildlife food plants, were received. This group includes plants in the following genera: Echinochloa, Eleusine, Castanea, Callicarpa, Crataegus and Vicia.

F. Miscellaneous

In addition to the plants previously mentioned, 34 accessions of plants, not fitting any of these categories, were received. Only a few of these accessions likely have merit for solving any common problem. For this reason, they will be held and be observed after a larger group has been assembled.

II. SUPPLEMENTAL EVALUATION

Those plants which have shown particular merit in the Initial Observational phase of testing are carried into Supplemental Observation. Here they are further tested to gain more specific information about their characteristics. The following are Supplemental Observation trials carried out at the Center in 1971.

A. Paspalum vaginatum and P. distichum.

Both of these species have shown promise as streambank and reservoir levee erosion control plants. If these plants are to be useful, however, a method for (a) producing and (b) harvesting reasonable quantities of seed is very desirable.

Purpose of test: To produce sufficient quantities of seed on selected Paspalum vaginatum and P. distichum to warrant harvest.

Method and Materials: The following ten accessions were established in 5' x 20' plots on May 20, 1970:

Paspalum distichum: MS 3152, 3153, 3154, 3155, 3175, 3178 and 3182.

Paspalum vaginatum: MS 3247, 3248 and 3249.

In order to insure establishment in 1970, a moderate amount of 13-13-13 was applied. A low dike was built around the plots and water applied to maintain a wet soil condition.

The following testing procedure was to have been in 1971; however, competition from unwanted grasses made it impractical to follow this procedure:

The plot for each accession was to have been divided into two sub-plots. One sub-plot of each accession was to be fertilized at the rate of 200 pounds of Ammonium nitrate per acre. The other was to receive no fertilizer.

All sub-plots were to be clipped at three week intervals. Soil was kept at a near saturated condition except at times of clipping when it was allowed to become dryer. Whenever good quantities of seedheads were set, clipping was discontinued and the seed allowed to mature. Each sub-plot was then clipped, the clippings retained and threshed, and the seed quantity and quality determined.

Results and Discussion.

As was previously mentioned, all plots became severely infested with Paspalum boscianum, Panicum dichotomiflorum, and other grasses. Making accurate determinations of seed quantity and quality being produced was impossible.

This test will be continued in 1972, with care being taken to eliminate competition.

B. Panicum hemitomon, Maidencane

Maidencane is a perennial, strongly rhizomatous grass adapted to wet soil situations in the southeastern United States. It forms dense stands and has proven to be a good streamchannel erosion control plant in some channels. No viable seed have been produced at the Coffeyville Plant Materials Center.

A lack of seed production restricts movement into areas where the plants are unwanted. It also makes vegetative propagation necessary and this is more costly and time consuming than propagation by seed. For this reason, a test was conducted to determine the optimum time for planting rhizomes.

Purpose of Test: To determine (1) the best month(s) for planting maidencane rhizomes and (2) whether the rhizomes are injured by normal shipment.

Methods and Procedures: Plantings of maidencane, Panicum hemitomon, MS 2138, were to be made once each month for 24 consecutive months. Plantings were made as follows: Enough rhizomes were dug each month to plant six rows each five feet long, with live material. Rhizomes were planted about $1\frac{1}{2}$ " deep, as 4" - 6" pieces end-to-end in the rows. These rows were planted immediately after the rhizomes were dug. The remaining rhizomes were packaged, as for shipment, and stored in the warehouse. One row was planted from this stored material after 24 hours, and two more were planted after 48 hours of storage.

Plantings were checked as soon as appropriate to determine initial survival. Approximately one year later, the percentage of ground cover and width of spread were determined. These determinations were made by visual observation, except that width of spread was measured.

Results and Discussion: The following table shows the results of the test. (See following page):

RESULTS OF TEST: PANICUM HEMITOMON, MS-2138

PLANTING BEGAN	PLANTING CHECKED	INITIAL SURVIVAL		% COVER 1 YEAR AFTER PLANTING		SPREAD 1 YEAR AFTER PLANTING	
		: 0 Hr.:24 Hr.	: 48 Hr.	: 0 Hr.:24 Hr.	: 48 Hr.	: 0 Hr.:24 Hr.	: 48 Hr.
6-4-68	6-24-68	100	95	100	100	100	28"
7-1-68	7-15-68	100	100	100	100	100	24"
8-1-68	8-20-68	100	100	100	100	100	28"
9-3-68	9-17-68	95	90	95	100	95	24"
10-1-68	10-15-68	95	95	95	100	95	28"
11-3-68	4-22-69	100	95	95	100	100	24"
12-10-68	4-22-69	100	95	100	100	100	28"
1-13-69	4-22-69	95	100	100	100	100	30"
2-10-69	4-22-69	95	95	95	100	100	30"
3-5-69	4-22-69	100	95	90	100	100	32"
4-9-69	4-22-69	90	95	50	100	100	30"
5-12-69	5-21-69	100	100	100	100	100	30"
6-4-69	6-20-69	95	95	75	100	100	30"
7-8-69	8-15-69	100	100	100	100	100	30"
8-6-69	9-9-69	95	80	15	100	100	30"
9-8-69	9-22-69	40	60	60	95	95	30"
10-8-69	10-22-72	0	0	5	0	50	--
11-5-69	4-15-70	0	5	5	0	20	18"
12-3-69	4-15-70	0	5	0	0	20	30"
**						--	24"
4-15-70	5-13-70	60	85	90	90	95	24"
5-6-70	5-20-70	70	60	60	90	95	28"

**Bad weather conditions in January, February and March, 1970 prevented plantings being made.

The cause of the poor survival of all plantings made in October 1969 is unknown. These rhizomes should have begun regrowth before frost but very few did. The November and December, 1969 plantings were made after frost and would not have begun regrowth until April, 1970. Both of these plantings may have been injured by an extremely cold period in January, 1970. All plantings, other than the three above, had little difference in initial survival, cover after one year's growth, and width of spread. Apparently plantings could be successfully made during most months, excluding autumn. Storage for 48 hours did not harm the rhizomes.

C. Removal of Plants for Which Evaluation Has Been Completed:

Numerous plants which had shown no particular merit were removed from various observational areas in 1971. This was done to provide more space and to cut down on operating costs. Some plants which were removed include a good number of accessions in the initial observational area.

Various plants in the woody plant observational area were removed, or selectively reduced in number:

Elaeagnus umbellata
Castanea molissima
Malus spectabilis
Malus sp.,

D. Treatment Tests to Induce Germination in Eastern Redcedar Seed

The Eastern Redcedar, Juniperus virginiana, is commercially marketed as either sawlogs or fence posts in some areas served by this Center. Certain sites within this area are believed to be better suited for growing Eastern Redcedar than other timber species. These sites are usually not well suited for transplanting seedlings; so, a direct seeding method is needed.

It would be advantageous to be able to harvest seed in the fall, clean, dry, store, and get good germination from these seed sown the following spring. Unfortunately, Eastern Redcedar seed must be harvested rather early after maturity; cleaned, and properly stratified. Even then, they will not germinate the following spring unless planted early enough for germination to occur within a rather cool temperature range. In an attempt to overcome this dormancy problem, this Center ran the following test.

Purpose: To determine whether certain seed treatments will break dormancy and increase germination of seed of Eastern Redcedar, Juniperus virginiana.

Materials:

1. Cleaned, dry seed of Eastern Redcedar which had been harvested in the fall of 1960

2. Concentrated sulfuric acid
3. Gibberellic acid (as 0.857% Potassium gibberellate)
4. Three percent hydrogen peroxide solution

Methods:

The seed treatments were made in the following order where more than one treatment was involved.

1. Sulfuric acid- Seed were soaked in the acid until a good part of the seedcoat was removed, washed with cold water, and allowed to dry.
2. Hydrogen peroxide - Seed were soaked in 3% Hydrogen peroxide 2 hours, removed, and allowed to dry.
3. Gibberellic acid - Seeds were dampened in the solution and allowed to dry.

One hundred seeds were subjected to each of the following:

Treatment No. 1: Sulfuric acid plus hydrogen peroxide plus gibberellic acid.

- 2: Sulfuric acid plus hydrogen peroxide
- 3: Sulfuric acid plus gibberellic acid
- 4: Hydrogen peroxide plus gibberellic acid
- 5: Gibberellic acid only
- 6: Hydrogen peroxide only
- 7: Sulfuric acid only
- 8: Control seed - No treatment

Seeds were treated as above and planted in flats in early April 1970. All flats were placed outside in the shade of trees.

Results and Discussion:

No germination occurred in any of the eight treatments in 1970. In April 1971 the following germination percentages were noted:

<u>Treatment No.</u>	<u>Percent Germination</u>
1	0
2	9
3	4
4	0
5	20
6	13
7	0
8	28

None of these treatments induced germination the first spring the seeds were planted. From this very limited test, it would seem that the seed were harmed by most treatments.

E. Requirements for Germination and Establishment of Five Species of Plants

Seeds often require conditions for germination and establishment which are unknown. This is true of many materials received by Plant Materials Centers since many of the plants they receive are not the customary agro-nomic plants.

In order to effectively utilize a plant, something must be known about germination and establishment requirements. Five species of plants showing conservation value were selected for testing at the Coffeeville Plant Materials Center.

Methods and Procedures: The following five (5) accessions were to be planted monthly for 36 consecutive months:

Echinochloa holubii, MS 924, Limpopograss
Lespedeza virgata, MS 126, Spreading lespedeza
Panicum virgatum, MS 155, Pangburn switchgrass
Paspalum nicrae, MS 906, Amcorae brunswickgrass
Paspalum notatum, MS 131, Wilmington bahiagrass

Five hundred seed of each accession were used monthly; 100 being planted at each of the following five (5) depths: 0", 1/4", 1/2", 1" and 1 $\frac{1}{2}$ ". The planting area was treated with methyl bromide to kill weed seeds. Rows were made and allowed to settle prior to planting.

The percentage of germination was determined as soon after planting as possible. The stand was rated for percentage ground cover (visual observation) one year after emergence.

Results and Discussion: The following table shows the planting results for all plantings completed. Further testing is necessary.

b. Echinochloa holubii, MS 924 - Results of Test -

Depth Planted	Date Planted	Date Checked	% GERMINATION					% COVERAGE 1 YR. AFTER GERMINATION				
			: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$:: 0%	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$
5-2-68	5-21-68	13	15	18	25	26	:: 50	100	100	100	100	100
6-4-68	7-1-68	2	4	3	5	6	:: 85	85	90	75	80	
7-1-68	7-23-68	6	21	12	11	10	:: 40	100	90	100	90	
8-1-68	8-19-68	19	23	16	8	7	:: 50	90	40	90	0	
9-3-68	9-24-68	38	17	21	25	16	:: 50	0	50	30	50	
10-1-68	11-1-68	27	22	28	23	11	:: 0	15	0	25	25	
11-4-68	4-21-69	0	0	1	0	0	:: 0	0	0	0	0	10
12-10-68	4-21-69	1	2	9	5	3	:: 0	25	20	0	0	
1-13-69	4-21-69	0	2	0	3	1	:: 0	10	0	10	0	
2-10-69	4-21-69	1	4	0	3	4	:: 0	0	0	0	0	
3-5-69	4-21-69	0	0	0	1	3	:: 0	0	0	0	0	
4-9-69	5-13-69	4	13	2	10	8	:: 10	0	0	0	0	
5-12-69	5-28-69	1	7	6	5	0	:: 0	0	0	0	0	
6-4-69	7-1-69	8	13	8	2	2	:: 0	10	10	10	0	
7-9-69	8-11-69	6	7	5	4	0	:: 0	10	15	10	0	
8-7-69	9-9-69	7	13	14	9	6	:: 10	0	10	0	0	
9-8-69	10-10-69	0	0	11	10	3	:: 0	0	0	0	0	
10-8-69	5-13-70	0	1	0	6	4	:: 0	0	0	0	30	30
11-5-69	5-13-70	0	0	0	0	3	:: 0	0	0	0	0	20
12-4-69	5-13-70	0	0	0	0	1	:: 0	0	0	0	0	0
N												
Q												
P												
1												
i	a											
n	n											
g	t											
s-												
4-15-70	5-13-70	16	10	21	21	15	:: 60	60	80	90	80	
5-12-70	6-22-70	18	15	9	6	2	:: 100	100	70	60	40	
6-8-70	7-3-70	4	9	5	5	0	:: 40	70	60	60	0	
6-29-70	7-29-70	18	31	18	2	1	:: 100	100	100	30	0	
8-3-70	8-27-70	19	9	6	2	6	:: 80	50	40	0	40	
9-1-70	10-23-70	4	1	2	3	1	:: 0	0	0	0	0	

c. Lespedeza virgata, MS 126 - Results of Test

Depth Planted	Date Planted	Date Checked	% GERMINATION						% COVERAGE 1 YR. AFTER GERMINATION					
			: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$:	: 0	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$	
			(Visual Estimation)											
5-2-68	5-21-68		30	42	33	39	21		100	100	80	100	85	
6-4-68	7-1-68		12	17	8	0	0		60	75	75	0	0	
7-1-68	7-23-68		33	11	2	1	0		100	100	90	10	0	
8-1-68	8-19-68		36	40	34	4	0		90	85	100	0	0	
9-3-68	9-24-68		28	26	14	20	3		0	0	0	0	0	
10-1-68	11-1-68		15	24	0	0	0		0	0	0	0	0	
11-4-68	4-21-69		0	0	0	2	0		0	0	0	0	0	
12-10-68	4-21-69		0	0	1	0	0		0	0	0	0	0	
1-13-69	4-21-69		0	0	0	0	0		0	0	0	0	0	
2-10-69	4-21-69		0	0	1	0	0		0	0	0	0	0	
3-5-69	4-21-69		1	1	2	0	0		0	0	20	0	0	
4-9-69	5-13-69		0	1	0	1	0		0	0	0	0	0	
5-12-69	5-28-69		62	44	28	36	2		100	100	100	100	30	
6-4-69	6-20-69		45	17	5	3	1		90	30	0	50	0	
7-9-69	8-11-69		4	1	4	0	0		0	0	50	0	0	
8-7-69	9-9-69		0	0	0	0	0		0	0	0	0	0	
9-8-69	10-10-69		8	2	2	0	0		0	0	0	0	0	
10-8-69	5-13-70		0	0	0	1	2		0	0	0	0	0	
11-5-69	5-13-70		0	0	0	0	0		0	0	0	0	0	
12-4-69	5-13-70		0	0	0	0	0		0	0	0	0	0	
No														
P														
l														
a														
i														
n														
n														
t-														
g														
s														
4-15-70	5-13-70		4	6	6	7	5		20	20	50	50	50	
5-12-70	6-22-70		11	14	12	4	0		90	100	100	70	0	
6-8-70	7-3-70		4	13	2	0	0		40	90	20	0	0	
6-29-70	7-29-70		1	4	3	0	2		10	40	30	0	30	
8-3-70	8-27-70		3	16	10	0	0		30	80	70	0	0	
9-1-70	10-23-70		13	8	1	0	0		60	50	0	0	0	

d. Panicum virgatum, MS 155 - Results of Test

Depth Planted	Date Planted	Date Checked	% GERMINATION					% COVERAGE 1 YR. AFTER GERMIN.						
			: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$:	: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$	
			(Visual Estimation)											
5-2-68	6-13-68		11	28	22	20	8	80	100	90	100	100		
6-4-68	7-1-68		6	11	7	2	0	35	80	20	25	0		
7-1-68	7-23-68		12	10	27	11	2	0	25	30	60	0		
8-1-68	8-19-68		8	18	6	13	9	45	5	15	60	0		
9-3-68	9-24-68		14	24	22	14	11	0	0	0	0	0		
10-1-68	11-1-68		26	28	12	21	8	0	0	40	30	90		
11-4-68	4-21-69		1	0	2	10	2	20	0	20	80	60		
12-10-68	4-21-69		2	21	18	27	39	40	75	0	60	100		
1-13-69	4-21-69		0	7	2	14	17	0	40	30	50	90		
2-10-69	4-21-69		5	15	15	14	15	40	80	50	50	75		
3-5-69	4-21-69		12	15	4	24	19	40	60	75	70	90		
4-9-69	5-23-69		2	5	12	5	4	20	60	80	60	60		
5-12-69	6-4-69		4	11	2	1	1	50	50	0	0	0		
6-4-69	7-1-69		2	5	1	0	0	40	60	0	0	0		
7-9-69	8-11-69		4	12	6	1	0	50	90	70	40	0		
8-7-69	9-9-69		13	22	13	20	16	0	0	0	0	0		
9-8-69	10-10-69		3	11	12	12	3	0	0	0	0	0		
10-8-69	5-13-70		0	0	0	0	0	0	0	0	0	0		
11-5-69	5-13-70		0	0	0	1	0	0	0	0	0	0		
12-4-69	5-13-70		0	0	0	0	0	0	0	0	0	0		
No														
p														
1														
a														
i														
n														
n														
t-														
g														
s-----														
4-15-70	5-13-70		19	16	41	27	27	80	80	100	100	90		
5-12-70	6-22-70		12	9	11	8	1	100	100	90	90	30		
6-8-70	7-3-70		8	15	1	0	1	90	100	20	0	20		
6-29-70	7-29-70		9	3	4	3	0	90	20	20	20	0		
8-3-70	8-27-70		8	14	11	11	5	30	40	40	20	0		
9-1-70	10-23-70		2	18	14	5	5	0	50	0	0	0		

a. Paspalum nicorae - MS 906 - Results of Test -

Depth Planted	Date Planted	% GERMINATION						% COVERAGE 1 YR. AFTER GERM.					
		: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$		
Date Date													
Planted: Checked :													
5-2-68 : 5-21-68	:	15	29	28	14	4	:	90	100	100	100	100	
6-4-68 : 7-1-68	:	0	0	0	1	2	:	0	0	0	20	50	
7-1-68 : 7-23-68	:	4	2	2	7	4	:	0	5	50	75	45	
8-1-68 : 8-19-68	:	2	2	10	8	6	:	0	0	80	70	10	
9-3-68 : 9-24-68	:	9	8	8	5	7	:	0	0	0	50	60	
10-1-68 : 11-1-68	:	23	16	23	7	11	:	0	0	0	0	0	
11-4-68 : 4-21-69	:	0	0	22	25	26	:	0	0	0	0	0	
12-10-68 : 4-21-69	:	0	0	0	4	3	:	0	0	0	0	0	
1-13-69 : 4-21-69	:	15	9	4	8	8	:	0	0	0	0	0	
2-10-69 : 4-21-69	:	12	6	13	12	19	:	0	0	0	0	0	
3-5-69 : 4-21-69	:	7	4	16	19	1	:	0	0	0	0	0	
4-9-69 : 5-13-69	:	0	5	7	18	5	:	0	0	0	0	0	
5-12-69 : 5-28-69	:	2	22	9	5	0	:	0	0	0	0	0	
6-4-69 : 7-1-69	:	1	5	9	2	4	:	0	0	0	0	0	
7-9-69 : 8-11-69	:	4	9	16	0	0	:	0	0	10	0	10	
(in middles)													
8-7-69 : 9-9-69	:	32	38	32	18	0	:	0	0	0	0	0	
9-8-69 : 10-10-69	:	22	17	17	8	7	:	0	0	0	0	0	
10-69 : 5-13-70	:	0	0	0	0	0	:	0	0	0	0	0	
11-5-69 : 5-13-70	:	0	0	0	0	0	:	0	0	0	0	0	
12-4-69 : 5-13-70	:	0	0	0	0	0	:	0	0	0	0	0	
No													
Plantings													
4-15-70 : 5-13-70	:	15	28	8	22	18	:						
5-12-70 : 6-22-70	:	27	14	11	6	20	:	80	80	80	50	70	
6-1-70 : 7-3-70	:	21	8	3	1	0	:	80	60	20	10	0	
6-29-70 : 7-29-70	:	23	41	19	6	1	:	90	90	70	50	0	
8-3-70 : 8-27-70	:	28	18	4	5	13	:	80	60	20	20	50	
9-1-70 : 10-23-70	:	29	32	16	3	0	:	50	70	50	0	0	

e. Paspalum notatum, MS 131 - Results of Test

Depth Planted	Date Planted	% GERMINATION						% COVERAGE 1 YR AFTER GERMIN.					
		: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$:	: 0"	: $\frac{1}{4}"$: $\frac{1}{2}"$: 1"	: $1\frac{1}{2}"$:
Date Checked	Planted												
5-2-68	6-13-68	16	12	5	8	11		100	100	90	100	90	
6-4-68	7-1-68	0	2	1	9	4		0	25	25	90	85	
7-1-68	7-23-68	21	13	30	11	4		80	100	100	85	90	
8-1-68	8-19-68	19	6	8	19	19		10	60	30	80	100	
9-3-68	9-24-68	19	6	39	7	18		0	0	10	15	10	
10-1-68	11-1-68	5	15	16	4	0		0	0	0	70	100	
11-4-68	5-13-69	0	0	1	0	1		0	0	0	0	50	
12-10-68	5-13-69	0	0	0	0	7		0	0	0	0	60	
1-13-69	5-13-69	0	0	3	17	5		0	0	10	100	90	
2-10-69	5-13-69	0	2	4	10	3		0	60	80	100	90	
3-5-69	5-13-69	0	5	4	15	8		0	90	90	100	100	
4-9-69	5-23-69	1	4	28	28	29		0	80	100	100	100	
5-12-69	6-4-69	8	46	9	15	3		100	100	100	100	100	
6-4-69	7-1-69	14	7	7	5	3		90	100	100	100	90	
7-9-69	8-11-69	20	11	27	23	22		0	0	0	0	0	
8-7-69	9-9-69	28	38	36	49	13		0	0	0	0	0	
9-8-69	10-10-69	11	38	34	33	22		0	0	0	0	0	
10-8-69	5-13-70	0	0	0	0	0		0	0	0	0	0	
11-5-69	5-13-70	0	0	0	0	0		0	0	0	0	0	
12-4-69	5-13-70	0	0	0	0	0		0	0	0	0	0	
No													
p													
1													
i	a												
n	n												
g	t												
s	-												
4-15-70	5-13-70	19	21	27	15	18		100	100	100	100	100	
5-12-70	6-22-70	8	8	24	10	4		100	80	100	100	60	
6-8-70	7-3-70	1	6	7	1	3		40	80	80	30	60	
6-29-70	7-29-70	10	8	2	0	3		40	30	0	0	30	
8-3-70	8-27-70	19	70	70	57	30		50	100	100	100	80	
9-1-70	10-23-70	7	5	10	11	4		0	0	10	20	0	

Weather conditions made it impossible to plant the seed in January, February, and March 1969. Grass seed washed into the area and made it impossible to accurately determine germination of the October, November and December 1969 plantings.

Monthly germination results vary considerably from species to species, planting depth also influences results. The best month(s) for germination is difficult to determine; but, April through July plantings generally become established better.

III. Initial Increase of Selected Plant Materials.

These accessions which have shown particular merit in initial observation and supplemental observation are placed in Initial Increase. This is done to produce more seed or planting stock for further testing and to make field increase plantings. The following Initial Increase plantings were made in 1971:

Andropogon scoparius, Little bluestem, MS Nos. 332, 333, 748, and 1772. These four accessions all have somewhat similar characteristics of growth, maturity date, etc. Seed from all four was mixed and planted together, since a mixture of the four was believed to be superior to any one accession alone.

Germination was poor and crabgrass competition eliminated those plants which emerged. This planting will be made again at a future date.

Robinia fertilis, bristly locust, MS 2488. This plant was received originally as Robinia hispida but is believed to be to be R. fertilis because it produces a reasonable quantity of seed. Bristly locust produces root suckers readily and forms thickets. It is capable of growing on acid sites and is reported to be a good mine spoil cover plant.

A small plot was established vegetatively in 1971 at the Center.

Amorpha fruticosa, Indigobush, MS 3334, is a perennial, deciduous leguminous shrub. It grows in rather wet areas, and has value as a wildlife food plant, ornamental and shoreline erosion control plant. The plant is easily propagated from seed and good quantities of seed are produced.

A small increase area was established in 1971.

Plant and Seed Increases	MS	Pl or No. : Other No. : Seed(1bs) : Plants(ea) : Production:	Planted Area in Seed(lbs) : Plants(ea) : Production:	Amount Harvested Amount(lbs) : Plants(ea)	Purpose of * Plants(ea) : Increase
<u>Alnus glutinosa</u> European black alder	2583		100	120' row	0
<u>Alnus rugosa</u> Hazel alder	3449		100	120' row	0
<u>Ampelopsis brevipedunculata</u> , Amur amp.	2665		2,000	600' r.	2,000
<u>Andropogon scoparius</u> Little bluestem, 333, 748, 1772	332, All	Center Use	Est. 1/10 ac.	0	E.4
<u>Arachis monticola</u> Reseeding peanut	528	263393	200#	1/4 Ac. 125#	E.6, C.4
<u>Callicarpa americana</u> American beautyberry	3298		500	50' r.	0
<u>Castanea alnifolia</u> Trailing chinquapin	4		800	190' r.	500
<u>Castanea dentata</u> American chestnut	3306		5	5' r.	2
<u>Castanea dentata</u> American chestnut	3321		10	8' r.	0
<u>Castanea mollissima</u> Chinese chestnut	Several		5,000	600' r.	800

Plant and Seed Increases

Species	MS :No.	PI or :Other No.	Amount Planned :Seed(lbs.):Plants(ea.)	Area in : Production :Seed(lbs.):Plants(ea.)	Amount Harvested :Plants(ea.):Increase	Purpose of
<u>Castanea ozarkensis</u> Ozark chinkapin	3161		10	7' r.	0	C.6
<u>Castanea ozarkensis</u> Ozark chinkapin	3370		30	30' r.	0	C.6
<u>Cornus florida</u> Flowering dogwood	3476		1,300	600' r.	280	B.5, C.3
<u>Crataegus sanguinea</u> Redhaw hawthorn	3372		1,000	300' r.	0	B. 5, C.7
<u>Crataegus sp.</u> Hawthorn	2671		6,000	600' r.	0	B.5, C.7
<u>Cynodon dactylon</u> Tifdwarf bermudagrass			300 sq.yds	5,000 sq.ft.	20 sq.yds	B.3
<u>Cynodon dactylon</u> Tifcote bermudagrass	BN 4198		300 "	5,000 " "	159 "	B.3
<u>Echinochloa frumentacea</u> Chiwapa millet	181	BN 8963	800#	1 acre	2,550#	C.2
<u>Echinochloa holubii</u> Limpograss	924			1.5 ac	0	B.3, B.8
<u>Elaeagnus umbellata</u> Autumn olive	429			150' r.	0	C.1, C.7
<u>Elaeagnus umbellata</u> Autumn olive	430			600' r.	10	C.1, r.7

Plant and Seed Increases

Species	MS No.	PI or Other No.:	Amount Planned Seed(lbs.):	Area in Production:Seed(lbs.):	Amount Harvested Plants(ea.):	Purpose of Increase
<u>Elaeagnus umbellata</u> <u>AUTUMNOLIVE</u>	432	BN 12090	2,500	900' r.	14	C.1, C.7
<u>Eragrostis curvula</u> Weeping lovegrass		FP	1,000	15 ac.	520#	A.1, A.4
<u>Eragrostis robusta</u> Big lovegrass	394		50	1 ac	2#	E.2
<u>Buonymus americana</u> Strawberry bush	3368		10	2' r.	0	C.3
<u>Buonymus americana</u> Strawberry bush	3299		50	19' r.	0	C.3
<u>Buonymus bungeanus</u> Winterberry euonymus	2945		1,000	200' r.	0	C.1, C.7
<u>Festuca arundinacea</u>	1601		10,000	50 ac.	8,200#	C.4, C.7
KY 31 Fescue			150#	3/4 ac.	50#	E.1
<u>Festuca arundinacea</u>	539					
Arrens fescue			300#	3 ac.	3,800#	C.1, C.3, C.4
<u>Glycine ussuriensis</u> Wild reseeding soybean	128					
<u>Hemerocallis sp.</u> Tawny daylily	2165		8,000	1/4 ac.	9,062	B.5
<u>Flex vomitoria</u> Youpon holly	2946		50	50' r.	0	C.3, B.5

Plant and Seed Increases	MS	PI or No. :Other	Amount Planned No. :Seed(lbs):Plants(ea):Production:Seed(lbs):Plants(ea):Increase	Area in ac.	Amount Harvested	Purpose of Plants(ea):Increase
<u><i>Lespedeza cuneata</i></u> F. P. Servicea	2146		7,000	75 ac.	11,600	A.4, E.7
<u><i>Lespedeza virgata</i></u> Spreading lespedeza	126		400	2 ac.	470	A.4
<u><i>Lonicera maackii</i></u> Amur honeysuckle	2161		3,000	600# r.	11	C.7
<u><i>Malus hupehensis</i></u> Maidencane	150		4,700	900# r.	920	B.5, C.7
<u><i>Panicum virgatum</i></u> Switchgrass	17		All - PMC	100# r.	0	E.4
<u><i>Panicum virgatum</i></u> Switchgrass	18	"	"	3 ac.	0	E.4
<u><i>Panicum virgatum</i></u> Pangburn switchgrass	155		300#	3 ac.	0	E.4
<u><i>Paspalum notatum</i></u> Wilmington bahiagrass	131		2,000	30 ac.	825	E.7, A.4
<u><i>Phyllostachys bissetii</i></u> Bissett's bamboo	499			Per Request	300# r.	860 rh. B.2, A.3

Plants and Seed Increases	MS	PI or No.	Amount Planned :Seed(lbs.):	Area in Plants(ea):	Amount Harvested :Production:Seed(lbs.):	Harvested (ea):	Purpose of Increase
<u>Species</u>							
<u>Phyllostachys meyerii</u>	498		Per Request	300' r.			
Meyers' bamboo					800 rh.	B.2,A.3	
<u>Phyllostachys sp.</u>	500		Per Request	300' r.	0		
Hardy bamboo						B.2,	
<u>Fistacia chinensis</u>	2182		2,700	600' r.	58	C.6,C.7,B.5	
Chinese pistache							
<u>Prunus caroliniana</u>	3186		100	35' r.	0	B.5	
Laurel cherry							
<u>Pyrus calleryana</u>	3477		30	5' r.	6	B.5	
Callery pear							
<u>Pyrus sp.</u>	3281		10	5' r.	5	B.5	
Pear							
<u>Quercus acutissima</u>	3		1600	315' r.	1,530	C.3,C.5	
Sawtooth oak							
<u>Quercus myrsinaefolia</u>	6		100	66' r.	0	B.5	
Chinese evergreen oak							
<u>Quercus myrsinaefolia</u>	3204		25	18' r.	0	B.5	
Chinese evergreen oak							
<u>Rhamnus caroliniana</u>	3369		400	300' r	0	B.5	
Carolina buckthorn							

Species	MS No. :Other No.	PI or :Seed(lbs):Plants(ea):Production:Seed(lbs):Plants(ea):Increase	Amount Planned	Area in r.	Amount Harvested	Purpose of Increase
<u>Salix glaucocephaloides</u>	881		500	300 ¹ r.	0	A.1
Blueleaf willow						
<u>Trifolium nigrescens</u>	FP	1,000#	10 ac.	360#		E.1, E.6
Ball clover						
<u>Trifolium vesiculosum</u>		1,200#	9 ac.	1,700#		E.1, E.6
Mechee arrowleaf clover						

*Listing of Problems begin on following page.

PROBLEMS requiring new plants are many and diverse. They are grouped in five categories, with problems in category A being given the highest priority and those in category E the lowest. Within each category the problems are arranged in order of importance; number one being the most important and the last problem the least important.

A. Problems Related to Sediment Producing Areas:

1. Controlling streambank erosion with vegetation.
2. Stabilizing gully erosion with vegetation.
3. Stabilizing sheet eroding sites with vegetation.
4. Controlling erosion on road embankments and cut banks with vegetation.
5. Vegetating mine spoil dumps.
6. Stabilizing water disposal areas with vegetation.
7. Controlling erosion on filled areas with vegetation.

B. Problems Related to Recreation and Improvement of the Environment:

1. Assemble information on the culture and management of plants needed for recreation and beautification purposes.
2. Screen plant materials to check unsightly scenes from public view.
3. Ground cover plants in areas with heavy traffic.
4. Erosion controlling plants that will withstand heavy foot traffic in shaded areas are needed for parks, playgrounds and other recreational areas.
5. Ground cover plants to control erosion and improve the appearance of the area.

6. Assemble information about plants that are adapted to sites that have been contaminated with industrial wastes.
7. Winter annual grass other than ryegrass for recreational areas with heavy foot traffic.

C. Problems Related to Wildlife Habitat Improvement:

1. Quail Food and Cover. New Plants are needed to provide cover and food on problem sites such as eroding calcareous soils and mine spoil areas and utility rights-of-way. This last plant must be unacceptable to grazing animals.
2. Waterfowl Food. New plants are needed to fit the wide variety of conditions on sites frequented by waterfowl. Plants are needed that are easy to maintain and manage and which will produce large amounts of seed or green plant food.
3. Deer Browse. Perennial Plants are needed to improve the winter deer browse.
4. Wild Turkey Food. There is a need for a perennial plant that will produce seed and fruit to improve wild turkey ranges.
5. Dove Food. Perennial seed producing plants would be desirable to replace annual crops which now leave the soil open to erosion for a short time each year.
6. Trees or shrubs to provide food for squirrels.
7. Trees or shrubs to provide seeds or fruit for songbirds.

D. Problems Related to Soils or Site Conditions:

1. Wave action erosion control in water impoundment structures with vegetation.
2. Ground cover plants for mine spoil areas.

- D. 3. Controlling wind erosion on croplands with vegetation.
4. Salt tolerant plants to control shoreline erosion along the Gulf Coast.
5. Salt and/or alkaline tolerant plants to control erosion on either calcareous soils or soils contaminated with salt.
6. Ground cover plants for eroding soils that are very acid.

E. Problems Related to Grassland Conservation:

1. Improving soil protection and forage production with a cool season pasture plant.
2. Improving soil cover and forage production on low fertility soils or sites.
3. Improving soil cover and forage production on wet soils or sites.
4. Improving soil cover and forage production on range sites in poor condition by reseeding.
5. Improving range management practices by assembling information on the growth of range plants.
6. Improving soil cover and forage production with adapted legumes.
7. Improving soil cover and warm season forage production on droughty soils.
8. A warm season forage plant that can withstand flooding.
9. A perennial grass to prevent soil erosion and provide high quality frosted forage for winter grazing.
10. A leguminous plant for early fall grazing.
11. A high yielding hay plant that can be established from seed.

COMBINE SETTINGS FOR SEED HARVEST:

Ochinochloa frumentacea
Chiwapa japanese millet

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/3 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

Glycine ussuriensis
Wild reseeding soybean

Cylinder speed	-	960 RPM
Cylinder to concave spacing	-	5/8" - 1/2"
Fan Valves	-	Open
Adj. chaffer	-	1/2 open

Lespedeza virgata
Spreading lespedeza

Cylinder speed	-	1000 - 1200 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/4 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

Panicum texanum
Texas millet

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/3 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	5/32"

Panicum virgatum
Switchgrass

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	3/8" -- 1/2"
Fan valves	-	1/4 open
Adj. chaffer	-	1/4 to 3/8 open
Finishing sieve	-	9/64"

COMBINE SETTINGS FOR SEED HARVEST - Continued

Paspalum notatum
Wilmington bahiagrass

Cylinder speed	-	1200 -- 1600 RPM
Cylinder to concave spacing	-	3/16" - 1 $\frac{1}{4}$ "
Fan Valves	-	1/4 open
Adj. Chaffer	-	1/2 open
Finishing sieve	-	9/64"

Trifolium vesiculosum
Meechee arrowleaf clover

Cylinder speed	-	1200 -- 1600 RPM
Cylinder to concave spacing	-	1 $\frac{1}{4}$ " - 1/2"
Fan Valves	-	1/3 open
Adj. Chaffer	-	1/2 open
Finishing sieve	-	7/64"

NOTES AND SPECIAL PROBLEMS

Seeds of numerous shrubs and woody plants germinated very poorly in the spring of 1971. Several plants in this group had consistently high germination percentages for several years in succession. The cause for these germination failures is unknown.

PURE SEED AND GERMINATION PERCENTAGES OF SEED LOTS TESTED:

Species	% Germination	% Hard Seed	% Firm Seed	% Pure Seed
<u>Echinochloa frumentacea</u> Chiwapa millet	81.0	0.0	0.0	95.40
<u>Eragrostis curvula</u> Lovegrass	72.0	0.0	0.0	98.73
<u>Festuca arundinacea</u> Fescue	95.0	0.0	0.0	99.29
<u>Festuca elat. v. arund.</u> KY 31 fescue	92.0	0.0	0.0	97.30
<u>Glycine ussuriensis</u> , Lot 1 Wild reseeding soybean	69.5	17.5	0.0	97.95
	Lot 2	62.0	27.5	0.0
				96.31
<u>Lespedeza cuneata</u> Sericea lespedeza	78.5	1.0	0.0	98.15
<u>Lespedeza virgata</u> Spreading lespedeza	41.5	26.0	0.0	94.15
<u>Paspalum notatum</u> - Lot # 1 Wilmington bahiagrass	80.0	0.0	0.0	81.60
	Lot # 2	88.0	0.0	78.45
<u>Trifolium nigrescens</u> Ball clover	12.0	81.5	0.0	95.00
<u>Trifolium vesiculosum</u> Lot # 1 Meechee arrowleaf clover	25.5	68.0	0.0	98.15
	Lot # 2	18.5	76.0	0.00
				98.70

INFORMATION

A. Publications

1. Numerous articles concerning Coffeeville Plant Materials Center were written in 1971. A few were written in newspapers of wider distribution.
2. The following named article concerning a plant developed by the Center was written in 1971:

Wilborn, Ed, 1971. Meechee - Two Month's Extra Grazing. The Progressive Farmer 86(10):36
3. A publication entitled "Better Plants to Help Improve Our Environment" was published by the Soil Conservation Service in 1971. This brochure tells the story of the Plant Materials Center work in picture and story.

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Species	Other No.	No. :Planted:	Date	Growth	Seed.	Leaf	Seed	Winter	Matu-	Plant
		PI or	MS	Type	Vi-	or:Prod.	Prod.	:Injury:	ri	ty :Height
<i>Aeschynomene americana</i>		3254	7/1/70	-	-	-	-	-	-	10
<i>Agropyron caninum</i> L. Beauv.	297868	3375	11-5-71	GL	5	7	5	7	-	-
<i>Agropyron caninum</i> L. Beauv.	314612	3376	11-5-71	GL	3	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	314615	3377	11-5-71	GL	3	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	314616	3378	11-5-71	GL	3	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	314628	3379	11-5-71	GL	3	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	314629	3380	11-5-71	GL	3	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	315492	3381	11-5-71	NG	-	-	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	172364	3452	11-5-71	GL	5	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	235086	3453	11-5-72	GL	5	7	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	235438	3454	11-5-71	NG	-	-	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	251417	3455	11-5-71	NG	-	-	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	252044	3456	11-5-71	NG	-	-	-	-	-	-
<i>Agropyron caninum</i> L. Beauv.	253290	3457	11-5-71	GL	5	5	-	-	-	-
<i>Agropyron ciliare</i>	276395	3458	11-5-71	GL	5	5	-	-	-	-
<i>Agropyron ciliatiflorum</i>	229426	3459	11-5-71	GL	5	5	-	-	-	-
<i>Agropyron elongatum</i> (Host) Beauv.	142012	3011	10-30-69	PS	5	9	5	7	1	12"
<i>Agropyron elongatum</i> (Host) Beauv.	98526	3012	10-30-69	PS	5	9	5	7	1	6"
<i>Agropyron elongatum</i> (Host) Beauv.	150123	3013	10-30-69	PS	5	9	5	7	1	10"
<i>Agropyron elongatum</i> (Host) Beauv.	283164	3019	10-30-69	PS	7	5	5	5	1	10"
<i>Agropyron elongatum</i> (Host) Beauv.	P 2326	3016	10-30-69	PS	5	5	5	5	1	10"
<i>Agropyron elongatum</i> (Host) Beauv.	297871	3020	10-30-69	PS	7	5	5	5	1	12"
<i>Agropyron elongatum</i> (Host) Beauv.	315352	3021	10-30-69	PS	7	5	5	5	1	10"
<i>Agropyron elongatum</i> (Host) Beauv.		3023	10-30-69	PS	3	7	3	7	1	14"
<i>Agropyron elongatum</i> (Host) Beauv.	98526	3028	10-30-69	PS	1	1	1	1	1	6"
<i>Agropyron elongatum</i> (Host) Beauv.	179169	3029	10-30-69	PS	1	1	1	1	1	4"
<i>Agropyron elongatum</i> (Host) Beauv.	204383	3030	10-30-69	PS	5	7	5	7	1	8"
<i>Agropyron elongatum</i> (Host) Beauv.	205279	3031	10-30-69	PS	7	5	7	5	1	6"
<i>Agropyron elongatum</i> (Host) Beauv.	206622	3032	10-30-69	PS	7	5	5	5	1	8"

Codes:

A - Annual

P - Perennial

GL - Germinated and Lived
NG - No Germination
1 - Excellent
PI or

5 - Fair
7 - Poor

9 - Good
10 - Winter Kill

S - Sod
B - Bunch

V - Vine

GRASSES, LEGUMES AND HERBACEOUS PLANTS

Codes:

A - Annual
P - Perennial

GL - Germinated and Lived

NG - No Germination
1 - Excellent

10 - Winter Kill

B - Bunch
S - Sod

V - Vine

Species	PI or Other No.	MS No.	Date Planted:Type	Growth Seed.	Leaf Seed	Vigor:Prod.:Prod.	Injury:ri	Plant Height
Agropyron elongatum	206623	3033	10-30-69 PS	-	3	9	1	July 14"
Agropyron elongatum	206624	3034	10-30-69 PS	-	7	7	1	" 6"
Agropyron elongatum	222958	3035	10-30-69 PS	-	3	5	1	" 8"
Agropyron elongatum	249144	3038	10-30-69 PS	-	3	5	1	10"
Agropyron elongatum	251143	3039	10-30-69 PS	-	5	3	1	6"
Agropyron elongatum	255146	3040	10-30-69 PS	-	5	3	1	8"
Agropyron elongatum	255148	3041	10-30-69 PS	-	7-	7	1	6"
Agropyron elongatum	255149	3042	10-30-69 PS	-	7	5	1	"
Agropyron junceum	297873	2695	10-30-69 DIED '71					
Agropyron pectiniforme Roehm	297874	2696	11-5-71 GD					
Agropyron pectiniforme & Schutt	312438	3382	11-5-71 GL	5	9	-	-	-
Agropyron pectiniforme	315357	3383	11-5-71 GL	5	9	-	-	-
Agropyron pectiniforme	315358	3384	11-5-71 GL	5	9	-	-	-
Agropyron pectiniforme	315359	3385	11-5-71 NG				July	-
Agropyron pectiniforme	273734	3460	11-5-71 NG				"	
Agropyron pectiniforme	273735	3461	11-5-71 GL	5	9	-	-	-
Agropyron pectiniforme	310369	3462	11-5-71 GL	5	9	-	-	-
Agropyron pectiniforme	315360	3463	11-5-71 GL	5	9	-	-	-
Agropyron pectiniforme BN 18616		3597	3-26-71 GL	5	9	-	-	-
Agropyron pectiniforme BN 18617		3598	3-21-71 GL	5	9	-	-	-
Agropyron pectiniforme PI 325212		3599	3-26-71 GL	7	9	-	-	-
Agropyron pectiniforme BN 8473-69		3014	10-30-69 PS	-	-	-	-	-
Agropyron pectiniforme BN 12002-60		3015	10-30-69 PS	5	7	5	1	6"
Agropyron pectiniforme BN 16229-64		3018	10-30-69 PS	7	7	7	1	6"
Agropyron smithi BN 6105-64		3022	10-30-69 PS	-	-	-	7	12"
Agropyron smithi A-13081		3024	10-30-69 PS	5	7	7	1	10"
Agropyron smithi C-27		3025	10-30-69 PS	5	5	5	1	12"
								10"

Codes:

A - Annual
P - Perennial

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

NG - No Germination
GL - Germinated and Lived
1 - Excellent

Species	PI or Other No.	MS	Date	Growth	Seed.	Leaf	Seed	Winter	Matu-	Plant
			Planted:Type	Vigor:Prod.	Prod.	Injury: rity	Prod.	ity	Plant	Height
<i>Agropyron smithii</i>	P 15614	3926	10-30-69	PS	-	5	5	1	July	10"
<i>Agropyron striatum</i>	PI 269891	3386	11-5-71	GL	5	7	-	-	-	-
<i>Agropyron striatum</i>	PI 207452	3464	11-5-71	GL	5	7	-	-	-	-
<i>Agropyron striatum</i>	PI 207453	3465	11-5-71	GL	5	9	-	-	-	-
<i>Agropyron striatum</i>	PI 223235	3466	11-5-71	GL	5	7	-	-	-	-
<i>Agropyron striatum</i>	PI 269895	3467	11-5-71	NG	-	-	-	-	-	-
<i>Agrostis palustris</i>	3157	5-20-70	PS	-	5	5	1	July	8"	6"
<i>Ajuga</i> sp.	3681	9-16-71	P	-	5	3	1	-	-	-
<i>Ammophila breviligulata</i>	BN 9026	2181	10-22-65	Disc.71	-	-	-	-	-	-
<i>Andropogon annularis</i>	PMT 586	2114	5-28-65	PB	-	5	3	1	July	24"
<i>Andropogon caucasicus</i>	PMT 588	2913	5-15-69	PB	-	5	5	1	"	30"
<i>Andropogon annularis</i>	PMT 587	2157	5-11-66	PB	-	3	5	1	"	24"
<i>Andropogon gerardii</i>	BN 9982	139	5-19-61	PB	-	3	5	1	"	50"
<i>Andropogon gerardi</i>	BN 9703	253	5-10-62	PB	-	3	3	1	"	48"
<i>Andropogon gerardi</i>	NY 1145-1	942	3-22-65	PB	-	3	5	1	"	54"
<i>Andropogon gerardi</i>	NY 1145-2	943	5-31-63	PB	-	3	5	1	Oct.	48"
<i>Andropogon gerardi</i>	AM 59	2244	5-11-66	PB	-	5	3	1	"	60"
<i>Andropogon ischaemum</i>	419	5-10-62	PB	-	5	5	1	"	30"	24"
<i>Andropogon maritimus</i>	F 3813	2363	4-27-66	PB	Discarded	3	7	1	Oct.	24"
<i>Andropogon rhizomatus</i>	F 1378	1719	5-19-64	PS	-	7	7	3	Nov.	24"
<i>Andropogon scoparius</i>	332	10-12-61	PB	-	-	1	3	1	Oct.	28"
<i>Andropogon scoparius</i>	333	10-13-61	PB	-	-	1	1	1	"	24"
<i>Andropogon scoparius</i> Michx	BN 4496-60	447	4-27-62	PB	-	3	3	1	Aug.	20"
<i>Andropogon scoparius</i>	NC 62-15	748	4-11-63	PB	-	3	3	1	Oct.	22"
<i>Andropogon scoparius</i>	426	1772	5-27-64	PB	-	3	5	1	Oct.	24"
<i>Andropogon stolonifer</i>	F 836	223	4-22-63	PS	-	5	7	1	Nov.	30"
<i>Andropogon stolonifer</i>	F 2857	2356	4-18-66	PB	-	9	9	1	"	24"

Codes:

A - Annual GL - Germinated & Lived 1 - Excellent
 P - Perennial VL - Vegetated & Lived 3 - Good
 GD - Germinated & Died NG - No Germination 5 - Fair

Species	Other No. : No. : Planted	Date	Growth	Seed	Leaf	Seed	Winter	Matu-	Plant
<i>Arachis glabrata</i> V. <i>haenbeckii</i>	AM 1532	3075	4-25-69	AB	Disc.	"	7	Poor	B - Bunch
<i>Arachis glabrata</i> V. "	AM 1533	3076	"	AB	"	3	9	Very Weak	S - Sod
<i>Arachis monticola</i>	263393	528	5-2-65	AB	Disc.	3	9	Weak	S - Sod
<i>Arachis</i> sp.	AM 1292	3078	4-25-69	AB	Disc.	5	7	Winter Kill	V - Vine
<i>Argyrolobium linneanum</i> Walp	302847	3533	5-20-71	GL	"	-	-	-	10"
<i>Arundinaria Michx</i> sp	S 2410	3526	3-15-71	VL	-	5	-	-	3"
<i>Arundinaria tecta</i> (Walt.)Muhl	TN 71-2	3525	3-9-71	VL	-	5	-	-	3"
<i>Arundinella anomala</i> Steud.	BN 11260	3534	5-20-71	NG	"	-	-	-	-
" <i>hirta</i> (Thunb.)Koidz	BN 18267	3535	5-20-71	NG	"	-	-	-	-
" <i>nepalensis</i> Trin.	257670	3541	5-20-71	NG	"	-	-	-	-
<i>Arundo donax</i> Linn		3606	4-5-71	VL	-	5	-	-	-
<i>Asclepias tuberosa</i>	2881	2881	4-23-68	PB	-	5	1	Aug.	3"
<i>Bellamcanda chinensis</i>	AM 2356	2237	1-12-66	PB	-	5	7	30"	-
<i>Bothriochloa glabra</i> (Roxb)A. Camus	361394	3812	5-25-72	GL	"	-	-	-	-
<i>Bothriochloa intermedia</i> v. <i>indica</i> PI 6580	2910	5-15-69	PB	Disc.	"	-	-	-	-
<i>Bothriochloa</i> "	" "	2912	"	PB	-	3	3	Aug.	24"
" "	" "	2915	"	PB	-	1	1	"	36"
" "	" "	2183	5-11-66	PB	-	5	1	"	24"
" "	" "	2189	5-11-66	PB	-	5	1	Jul.	24"
<i>Bouteloua curtipendula</i>	"	262	5-19-71	GL	5	7	-	-	6"
<i>Brachypodium pinnatum</i> (L)Beauv.	206682	640	5-19-71	GL	5	7	-	-	6"
" "	185135	641	5-19-71	GL	5	8	-	-	6"
" "	206545	268325	2249	5-19-71	GL	5	5	-	8"
" "	" "	206547	3323	5-19-71	GL	5	7	-	4"
" "	" "	206548	3324	"	GL	5	5	-	8"
" "	" "	BN 9156	3325	"	GL	7	7	-	6"
" "	" "	230112	3326	"	GL	5	7	-	6"
" "	" "	253298	3328	"	GL	5	7	-	8"
" "	" "	172692	3329	"	GL	5	5	-	8"

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:

A - Annual ...
 P - Perennial
 GL - Germinated & Lived
 NG - No Germination
 1 - Excellent
 3 - Good
 5 - Fair
 7 - Poor
 9 - Very Weak

Species	PI or Other No.	MS No.	Date Planted:	Seed.:Leaf Type	Growth Vigor:	Seed.:Prod.:Injury:	Leaf:Prod.:Injury:	Matu:-:Plant Sod	V - Vine	10 - Winter Kill
<i>Brachypodium pinnatum</i> (L.) Beauv.	230113	3330	5-19-71	GL	5	5	5	-	-	7"
"	"	206441	3331	5-19-71	GL	5	7	-	-	6"
"	"	240151	3332	5-19-71	GL	5	7	-	-	6"
"	"	268219	3333	"	GL	5	5	-	-	8"
"	"	BN 15859-64	3335	"	GL	5	5	-	-	8"
"	"	PI 316169	3336	"	GL	5	5	-	-	7"
"	"	PI 325213	3337	"	GL	5	7	-	-	6"
"	"	PI 325216	3338	"	GL	5	5	-	-	6"
"	"	PI 206620	3339	"	GL	5	5	-	-	8"
"	"	PI 206650	3340	"	GL	5	7	-	-	6"
"	"	PI 206677	3341	"	GL	5	5	-	-	6"
"	"	PI 229676	3342	"	GL	7	7	-	-	5"
"	"	PI 230241	3343	"	GL	5	5	-	-	8"
"	"	PI 249722	3344	"	GL	5	5	-	-	7"
<i>sylvaticum</i> (Huds.) Beauv.	PI 206546	642	"	GL	5	5	5	-	-	8"
"	171650	3345	"	GL	5	5	5	-	-	7"
"	"	173700	3346	"	GL	7	7	-	-	Aug.
"	"	237792	3347	"	GL	7	7	-	-	6"
"	"	251102	3348	"	GL	7	5	-	-	6"
"	"	268222	3349	"	GL	5	5	-	-	7"
"	"	287787	3350	"	GL	5	5	-	-	8"
"	"	223669	3351	"	GL	7	7	-	-	7"
"	"	204863	3352	"	GL	5	5	-	-	6"
"	"	204865	3353	"	GL	5	5	-	-	6"
"	"	172383	3354	"	GL	7	7	-	-	8"
"	"	206619	3355	"	GL	5	5	-	-	6"
"	"	269842	3356	"	GL	5	7	-	-	Sept.

Codes:

A - Annual

P - Perennial

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

GL - Germinated and Lived

NG - No Germination

1 - Excellent

P1 or

Other No.: MS No. ; Planted:

Date Planted: 10-30-69

Growth Prod.: Seed.: Leaf Prod.: Seed.: Leaf Prod.:

: Prod. Injury: :ity: Hgt.

Species

7 - Poor

3 - Good

5 - Fair

9 - Very Weak

10-Winter Kill

B-Bunch

S - Sod

Bromus inermis	"	2956	10-30-69	PB	-	7	5	1	June	12"
"	"	2957	"	PB	-	3	5	1	July	12"
"	"	AM 1360	31 81	12-4-69	PB	-	3	1	"	12"
"	"	251693	3542	11-5-71	GL	5	9	-	-	3"
"	"	297889	3544	"	GL	5	9	-	-	3"
"	"	311,072	3545	"	NG	7	9	-	-	2"
"	"	314,513	3546	"	GL	5	9	-	-	3"
"	"	314,514	3547	"	GL	5	9	-	-	4"
"	"	314,515	3548	"	GL	7	9	-	-	3"
"	"	314,516	3549	"	GL	5	9	-	-	4"
"	"	315,372	3550	"	GL	5	9	-	-	3"
"	"	315,380	3551	"	GL	5	9	-	-	4"
"	"	315,386	3552	"	GL	5	9	-	-	4"
"	"	315,387	3553	"	GL	7	9	-	-	3"
"	"	315,388	3554	"	GL	5	9	-	-	4"
"	"	315,389	3555	"	GL	5	9	-	-	3"
"	"	315,390	3556	"	GL	7	9	-	-	4"
"	"	315,391	3557	"	GL	5	9	-	-	4"
"	"	315,392	3558	"	GL	7	9	-	-	4"
"	"	315,393	3559	"	GL	7	9	-	-	3"
"	"	315,394	3560	"	GL	5	9	-	-	4"
"	"	315,397	3561	"	GL	7	9	-	-	4"
"	"	315,676	3562	"	GL	7	9	-	-	3"
"	cf.	283197	3563	"	GL	5	9	-	-	4"
"	"	316176	2697	10-30-69	PB	-	7	3	June	10"
"	"	316177	2698	"	PB	-	5	5	"	12"
"	"	2699	"			-	5	5		
Bromus unioloides HBK	"									
"	"									
Bromus willdenowii	"									
"	"									

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:

A - Annual

P = Perennial

NC = No Germinal

THE END - 241

Codes:	GL	- Germinated and Lived									
A - Annual	1	- Excellent	7	- Poor							B - Bunch
P - Perennial	3	- Good	9	- Very Weak							S - Sod
NG - No Germination	5	- Fair	10	- Winter Kill							V - Vine
Species	PI or Other No.	MS No. :Planted	Date Type	Growth :Seed.	Leaf	Seed	Matu-	Plant			
<i>Eragrostis ferruginea</i> (Thunb)BN 18263-68	3568	5-20-71	GD								
"	"	"	GD								
" robusta	PI 283273	3569	"	GD							
" "	234218	443	5-19-71	PB							
"	"	3485	"	GL							
<i>Eremochloa ophiuroides</i>	BN 15989	2575	3-17-67	PS							
<i>Eremocea persica</i> (Trin)Roshew.	220080	3487	5-20-71	GD							
"	222521	3488	"	GD							
<i>Erianthus ravennae</i>	BN 8009	2576	3-14-67	PB							
"	"	2656	10-27-67	PB							
<i>Festuca arundinacea</i> Schreb	"	2657	"	PB							
"	"	2658	"	PB							
"	"	2659	"	PB							
<i>Festuca elatior</i>	"	539	"	PB							
"	"	1601	"	PB							
<i>Festuca gigantea</i>	F 1079	1601	"	PB							
"	F 1103	3405	11-5-71	NG							
"	255362	3405	"	GL							
"	286206	3406	"	GL							
"	206646	3468	"	NG							
"	210552	3469	"	NG							
"	"	3407	"	NG							
"	"	3408	"	NG							
"	"	3408	"	GL							
"	"	3470	"	GL							
"	"	3634	"	GL							
"	"	19516-69	3635	"	GL						
"	"	19517-69	3636	"	GL						
"	"	19518-69	3637	"	GL						
"	"	19519-69	3638	"	GL						
"	"	19520-69	3639	"	NG						
"	"	19521-69	3640	"	NG						
"	"	19522-69	3641	"	GL						

Codes:

A - Annual

P - Perennial

NG - No Germination

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

GL - Germinated & Lived

1 - Excellent

3 - Good

5 - Fair

7 - Poor

9 - Very Weak

10 - Winter Kill

B - Bunch

S - Sod

V - Vine

Species PI or Other No.: MS No.: Planted : Date Growth : Seed. : Leaf : Seed : Winter: Matu-: Plant
Type : Vigor: Prod.: Prod.: Injuriy : Height

Festuca Linn. sp.

299967

3150 10-30-69 PB - 5 5 1 June 16"

Fingerhuthia africana

196359

2471 5-11-71 GL 5 7 5 - Aug. 12"

Fingerhuthia sesleriaeformis Nees

203354

3409 5-19-71 GL 5 7 5 - " 12"

Fingerhuthia sesleriaeformis Nees

299968

3410 5-19-71 GL 5 3 3 - " 16"

"

3411 5-19-71 GL 5 3 3 - " 16"

"

3412 5-11-71 GL 5 5 5 - " 16"

"

3413 5-11-71 GL 5 5 5 - " 16"

Glycine us suriensis

163453

128 AB 3 3 3 - Oct. Vine

Helianthus maximiliani

PMT 852

2210 5-11-66 PB - 3 3 3 - Nov. 8"

"

PMT 853

2211 5-11-66 PB - 3 3 3 - " 8"

"

PMT 1564

3514 5-19-71 GL 3 3 9 - " 5"

"

PMT-K 1110

3373 5-19-71 GL 3 3 3 - Sept. 4 1/2"

"

3374 5-19-71 GL 3 3 5 - Oct. 6"

"

5-13-68 PS - 1 None 3 - " 7"

Helianthia altissima (Poir) Stapf

299933

2916 9-16-71 " Disc. -

& Hubb

299039 2917 " Disc. -

"

299794 2918 " Disc. -

"

299995 2919 " PS -

"

3614344 36147 9-16-71 VL -

"

3614862 36148 VL -

"

3614864 36149 VL -

"

3614865 3650 VL -

"

3614866 3651 VL -

"

3614867 3652 VL -

"

3614868 3653 VL -

"

3614870 3655 VL -

"

3614872 3656 VL -

"

3614873 3657 VL -

"

3614875 3658 VL -

"

3614876 3659 VL -

Codes:	GRASSES, LEGUMES, AND HERBACEOUS PLANTS									
A - Annual	GL - Germinated & Lived			1 - Excellent	7 - Poor	B - Bunch				
P - Perennial	VL - Vegetated & Lived			3 - Good	9 - Very Weak	S - Sod				
GD - Germinated & Died	NG - No Germination			5 - Fair	10 - Winter Kill	V - Vine				
Species	PI or Other No.	MS No.	Date Planted	Type :Vigor:Prod.:Prod.	Injury: rity	Plant Seed	Leaf	Seed	Winter	Maturity :Height
<i>Hemarthria altissima</i>	"	364877	3660	9-16-71	VL	-	7	-	-	1'
	"	364878	3661	"	VL	-	7	-	-	1'
	"	364879	3662	"	VL	-	7	-	-	1'
	"	364880	3663	"	VL	-	7	-	-	1'
	"	364882	3665	"	VL	-	7	-	-	1'
	"	364881	3664	"	VL	-	7	-	-	1'
	"	364886	3666	"	VD	-	7	-	-	1'
	"	364887	3667	"	VL	-	7	-	-	1'
	"	364889	3668	"	VL	-	7	-	-	1'
	"	364891	3669	"	VL	-	7	-	-	1'
	F 3147	2586	4-5-67	PS	3	9	1	1	July	2 1/2'
	"	2164	9-3-65	PS	3	9	1	1	"	3 1/2'
	"	2165	8-23-65	PS	1	9	1	1	"	3 1/2'
	"	2177	10-11-65	PS	1	9	1	1	"	3 1/2'
	"	2178	"	PS	3	9	1	1	"	3 1/2'
	"	2338	3-4-66	PS	3	9	1	1	"	2 1/2'
	"	2339	3-10-66	PS	3	9	1	1	"	2 1/2'
	"	2438	10-25-66	PS	3	9	1	1	"	2 1/2'
	"	2439	"	PS	3	9	1	1	"	2 1/2'
	"	2562	3-6-67	PS	3	9	1	1	"	3 1/2'
	"	2570	3-8-67	PS	5	9	1	1	"	3 1/2'
	"	3209	4-3-70	PS	5	9	1	1	"	2 1/2'
	"	3630	6 - 71	VL	7	9	1	1	Aug.	2'
		2952	5-19-70	PS	5	3	3	3	Sept.	2'
		3808	4-20-66	PS	5	7	1	1	July	2 1/2'
	"	2357	1-12-66	PS	5	7	1	1	June	2 1/2'
	"	2234	"	PS	5	9	1	1	"	2 1/2'
	"	2235	"	PS	5	9	1	1	July	2 1/2'
		2236	"	PS	5	9	1	1		

Codes:

A - Annual

P - Perennial

GD - Germinated & Died

Species	Other No.	PI or MS	Other No. : No.	Planted : No.	Date	Growth	Seed.	Leaf	Seed	Winter	Matu-	Plant	7 - Poor	B - Bunch
<i>Lathyrus latifolia</i>	3261	5-19-71	GL	5	-	-	-	-	-	-	-	-	9 - Very Weak	S - Sod
<i>Leersia hexandra</i>	364346	3670	9-16-71	VL	-	-	-	-	-	-	-	-	10 - Winter Kill	V - Vine
<i>Leersia aquatica</i>	BN 10506	3176	5-20-70	Died	-	-	-	-	-	-	-	-	1 - Excellent	7 - Poor
<i>Lespedeza cuneata</i>	PI 246769	119	5-11-67	PB	-	-	-	-	-	-	-	-	3 - Good	3 - Good
" "	BN 4666	279	4-12-65	PB	-	-	-	-	-	-	-	-	5 - Fair	5 - Fair
" "	PI 310409	2534	5-18-67	PB	-	-	-	-	-	-	-	-	9 - Very Weak	9 - Very Weak
" "	NC Syn.# 2	2535	5-18-67	PB	-	-	-	-	-	-	-	-	10 - Winter Kill	10 - Winter Kill
" "	AM 2054	2584	5-18-67	PB	-	-	-	-	-	-	-	-	11 - Maturing	11 - Maturing
<i>Lespedeza inshanica</i> (Maxim)	318640	3571	5-20-71	GD	-	-	-	-	-	-	-	-	12 -	12 -
" "	Schindl.	349421	3572	5-20-71	GL	5	7	-	-	-	-	-	12 -	12 -
"	intermixta	246770	280	5-11-67	PB	-	-	-	-	-	-	-	1 -	Oct. Pros.
"	japonica	90664	1643	3-17-64	PB	-	-	-	-	-	-	-	4 -	4 -
" "	AM 816	1850	2-2-65	PB	-	-	-	-	-	-	-	-	4 -	4 -
" "	variant Ex BN 2279	2503	2-1-67	PB	-	-	-	-	-	-	-	-	3 -	3 -
"	<i>maximowiczii</i> Schneid	BN 2230	2536	5-18-67	PB	-	-	-	-	-	-	-	5 -	5 -
"	<i>pilosa</i>	246771	282	"	PB	-	-	-	-	-	-	-	12 -	12 -
"	procumbens	NC 63-8	230	5-13-63	PB	-	-	-	-	-	-	-	8 -	8 -
"	"	NC 64-3	1609	4-17-64	PB	-	-	-	-	-	-	-	8 -	8 -
"	<i>cuneata</i>		2146	5-11-67	PB	-	-	-	-	-	-	-	3 -	3 -
"	<i>Serpens</i>	PI 297385	2352	5-28-68	PB	-	-	-	-	-	-	-	12 -	12 -
"	<i>tomentosa</i>	318641	3529	5-20-71	GL	5	5	-	-	-	-	-	15 -	15 -
"	" ex Maxim	BN 1130-40	3573	5-20-71	GD	-	-	-	-	-	-	-	Oct.	Oct.
"	" "	111200	3574	5-20-71	GL	5	5	9	-	-	-	-	18 -	18 -
"	" "	349427	3575	"	GL	5	5	3	-	-	-	-	18 -	18 -
"	<i>virgata</i>	218004	3576	4-12-65	PB	-	-	-	-	-	-	-	18 -	18 -
"	<i>virginicus</i>	318639	3577	5-20-70	VD	5	5	5	-	-	-	-	12 -	12 -
"	<i>x divaricata</i>	349420	3570	5-20-71	GD	-	-	-	-	-	-	-	Oct.	Oct.

Codes:

A - Annual GL - Germ. & Lived
 P - Perennial
 NG - No Germination

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Species	Other No.	MS No	Planted:	Type	Vigor:	Prod.:	Seed:	Leaf:	Winter:	Matu:	Plant:	Bunch	Sod	Vine
Liriope graminifolia	82105	2577	3-14-67	PS	-	1	3	1	Oct.	18"				
Liriope muscari var variegata	BN 11069	2588	5-67	PS	-	5	9	1	Aug.	12"				
Liriope sp.	262105	2578	3-14-67	PS	-	3	5	1	Oct.	12"				
Lotus chihuahuensis	316271	3222	5-19-71	GD										
Lotus corniculatus L.	283627	3233	5-19-71	GD										
" edulis	283627	3238	5-19-71	GD										
" corniculatus L.	G 18984	3223	"	GL										
"	G 18986	3224	"	GL										
"	G 18987	3225	"	GL										
"	G 18989	3226	"	GL										
"	273937	3227	"	GL										
"	296318	3228	"	GL										
"	316266	3229	"	GL										
"	316267	3230	"	GL										
"	316268	3231	"	GL										
"	316269	3232	"	GL										
"	322555	3234	"	GL										
"	322556	3235	"	GL										
"	329242	3236	"	GL										
"	331177	3237	"	GL										
"	3610	3239	"	GL										
"	304068	3239	"	GD										
"	300015	3240	"	GL										
Lupinus sp.	3645	11-5-71	NG											

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Code:

ג-ג

A - Annual

P - Panamá

Species 5

GL - Germ. & Lived	VL - Veg. & Lived	9 - Very Weak	B - Bunch	Plant
NG - No Germination	5 - Fair	10 - Winter Kill	S - Sod	V-Vine
1 - Excellent	7 - Poor			
PI or	Date	Growth:	Seed. :Leaf	Winter Matu-
Other No. :MS No.	:Planted:	Type :	Prod. :Prod.	Height:

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

CODE:

A - Annual GL - Germ. & Lived
 P - Perennial
 NG - No Germination

Species	PI or Other No.	MS No.	Date Planted;	Type Vigor: Prod.: Prod.: Seed: Leaf: Matu- Winter: Injury: Plant V - Vine	Height
<i>Pennisetum spicatum</i>	337999	2978	5-15-69	PS	10
" <i>unisetum</i>	304750	3450	5-19-71	NG	
<i>Phalaris aquatica</i>	302473	2729	"	GL	
" "	316320	2730	"	GL	
PMT 939	3160	"	GL	5	
" " x <i>arund.</i>	BN 12103-63	1897	11-9-65	PS	
" " "	BN 12104-63	1898	"	Disc.	
<i>arundinacea</i>	316330	2731	5-19-71	GL	
" "	297362	2840	4-16-68	PS Disc.	
" "	236525	2931	5-19-71	GL	
<i>Phalaris tuberosa</i> v. <i>hirtiglumis</i>	2641	5-24-68	PS		
<i>Phlox adsurgens</i>	2373	5-26-66	PB		
<i>Phlox drummondii</i> , Hook	3626	5-21-71	NG		
<i>Phragmites communis</i>	3109	4-30-69	PS		
" "	2380	3642	6-25-71	VL	
" "	2376	2376	"	VL	
<i>Poa pilcomayensis</i>	337592	3245	5-19-70	P	
<i>Polygonum cuspidatum</i>	TN 71-3	3524	4-21-71	VL	
" " <i>compactum</i>	NY 1119	3246	5-21-70	PB	
<i>Polygogum fugax</i>	211074	3489	5-19-71	GL	
" "	219939	3490	5-19-71	GL	
" "	220617	3491	"	GL	
" "	220619	3492	"	GL	
" <i>monspeliensis</i>	202514	3493	"	GL	
" "	219940	3494	"	GL	
" "	204728	3495	"	GL	
" "	204729	3496	"	GL	
" "	287919	3497	"	GL	
" " 317466	3498	"	"	GL	
" "	317467	3499	"	GL	

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Code:

A - Annual

P - Perennial

NG - No Germination

GL - Germinated & Lived

1 - Excellent

3 - Good

5 - Fair

Other No.

7 - Poor

9 - Very Weak

10 - Winter Kill

MS

B - Bunch

S - Sod

V - Vine

PI or
Planted

Date

Growth

Seed.

Leaf

: Winter

: Matu-

: Plant

: Injury

: Irrity

: Height

Psoralea bituminosa

283969

5-9-63 PB

5-19-71 GL

" GL

" GL

" GL

" NG

" GL

" NG

7 - Poor

9 - Very Weak

10 - Winter Kill

MS

Date

Growth

Seed.

Leaf

: Winter

: Matu-

: Plant

: Injury

: Irrity

B - Bunch

S - Sod

V - Vine

PI or
Planted

Date

Growth

Seed.

Leaf

: Winter

: Matu-

: Plant

: Injury

: Irrity

B - Bunch

S - Sod

V - Vine

PI or
Planted

Date

Growth

Seed.

Leaf

: Winter

: Matu-

: Plant

: Injury

: Irrity

B - Bunch

S - Sod

V - Vine

PI or
Planted

Date

Growth

Seed.

Leaf

: Winter

: Matu-

: Plant

: Injury

: Irrity

Species	Other No.	PI or Other No.	MS	Date Planted	Growth Seed.	Leaf	: Winter	: Matu-	: Plant	: Injury	: Irrity	Code:
<i>Psoralea bituminosa</i>	"	283969	780	5-9-63	GL	3	5	1	Aug.	18"		A - Annual
<i>Rudbeckia</i> sp.	"	3255	3255	5-19-71	GL	3	7	3	July	18"		P - Perennial
	"	3260	"	"	GL	3	7	3	"	"		NG - No Germination
	"	3262	"	"	GL	3	3	7	"	"		
	"	3264	"	"	GL	3	5	3	"	"		
	"	3265	"	"	NG	3	7	3	"	"		
	"	3269	"	"	GL	3	5	1	"	"		
	"	3270	"	"	GL	5	5	1	"	"		
	"	3271	"	"	GL	5	5	3	"	"		
	"	3272	"	"	GL	3	5	3	"	"		
	"	3273	"	"	GL	3	7	5	"	"		
	"	3274	"	"	NG	7	7	5	"	"		
	"	3275	"	"	GL	7	7	5	"	"		
	"	3276	"	"	NG	3	7	3	"	"		
	"	3277	"	"	GL	3	7	3	"	"		
	"	3278	"	"	GL	3	7	3	"	"		
	"	3279	"	"	GL	3	7	3	"	"		
	"	3280	"	"	GL	3	7	3	"	"		
	"	3287	"	"	GL	3	7	5	"	"		
	"	3288	"	"	GL	3	7	5	"	"		
	"	3289	"	"	GD	5	5	3	"	"		
	"	3293	"	"	GL	3	5	3	"	"		
	"	3294	"	"	GL	3	5	3	"	"		
	"	3300	"	"	GL	5	5	3	"	"		
	"	3301	"	"	GL	5	7	5	"	"		
	"	3302	"	"	GL	3	5	3	"	"		
	"	3307	"	"	GL	3	5	3	"	"		
	"	3308	"	"	GL	3	5	3	"	"		

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

GL - Germinated & Lived

CODE:

A - Annual

P - Perennial

NG - No Germination

Species	PI or Other No.	No.	Planted	Type	Growth:Seed:Leaf:Seed:Winter:Matu:	Plant	Height
Rudbeckia sp.,			3309 5-19-71	NG	3 5 3	- July	18"
"	"		3310 "	GL	3 5 3	- "	2"
"	"		3311 "	GL	3 5 3	- "	2"
"	"		3312 "	NG	5 5 3	- July	2"
"	"		3313 "	GL	3 5 3	- "	2"
"	"		3314 "	GL	3 5 3	- "	2"
"	"		3315 "	GL	3 5 3	- "	2"
"	"		3316 "	GL	3 5 3	- "	2"
"	"		3317 "	NG	5 5 3	- Sept.	2"
"	"		3318 "	GL	3 5 3	- Aug.	2"
"	"		3319 "	GL	3 5 3	- July	2 1/2"
"	"		3320 "	GL	3 5 3	- Aug.	2"
"	"		3322 "	GL	5 5 3	- "	2"
"	"		3451 "	NG	5 5 3	- Oct.	6"
"	"		3472 "	GL	3 3 3	- "	6"
"	"		3473 "	GL	3 3 3	- Oct.	6"
"	"		3474 "	GL	3 3 3	- Oct.	6"
"	"		3475 "	GL	3 3 3	- July	2"
"	"		3483 "	GL	5 5 3	- "	2"
"	"		3501 "	GL	5 3 1	- "	2"
"	"		3502 "	NG	5 5 3	- Oct.	2 1/2"
Sorghastrum nutans (L.) Nash	"		145 5-19-61	PB	-	5 3 1	3 1/2"
"	"		228 "	PB	-	5 3 1	3 1/2"
"	"		1746 5-27-68	PB	-	5 3 1	4"
"	"		1747 " -64	PB	-	5 3 1	4"

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Code:

A - Annual

P - Perennial

NG - No Germination

GL - Germ. & Lived

1 - Excellent

3 - Good

5 - Fair

7 - Poor

9 - Very Weak

10 - Winter Kill

B - Bunch

S - Sod

V - Vine

VL - Veg. Lived

Species	PI or Other No.	MS :No. :	Date Planted :	Type :Vigor:Prod.:Prod.:Injury:	Height	Growth Seed.	Leaf Seed: Winter	Matu- Plant
<i>Sporobolus indicus</i>	310427	3578	5-20-71	NG				
" <i>loclados</i> v. <i>usitatus</i>	300124	3579	5-20-71	NG				
" <i>tenacissimus</i>	310428	3580	"	NG				
" <i>usitatus</i>	198598	3581	"	NG				
" <i>virginicus</i>	287252	3296	10-26-70	PB				
" "	300126	3297	"	PB				
<i>Stipa barbata</i>	330722	3006	10-30-69	PB - Died				
" <i>cernus</i>		3371	11-5-71	NG				
" <i>pulchra</i>	PL 105-71	3632	"	GL				
" "	PL 104-71	3633	"	GL				
" <i>splendens</i>	147820	728	11-5-71	NG				
" "	275368	3366	"	NG				
" <i>ucrainica</i>	275369	3367	"	NG				
" <i>ucrainica</i>	314114	3582	"	GL				
<i>Stylosanthes montevidensis</i>	322646	3445	5-20-71	NG				
<i>Tetrachne dregei</i>	300136	2926	5-23-68	PB				
<i>Themeda anthera</i>	216114	478	5-11-67	PB				
" <i>triandra</i>	206349	1860	5-4-65	PB				
<i>Tridens brasiliensis</i>	310319	2901	5-24-68	PB				
<i>Trifolium vesiculosum</i>	233782	329	10 - 70	AB				
<i>Tripsacum dactyloides</i>	BN 144-61	347	5-11-62	PB				
" "	F 134	420	3-12-62	PB				
" "	F 727	421	"	PB				
" "	F 134	423	"	PB				
" "		746	"	PB				

Code:

A - Annual
P-Perennial

GL - Germinated & Lived

GRASSES, LEGUMES AND HERBACEOUS PLANTS

 NG - No Germination
 VL - Vegetative & Lived
 1 - Excellent

 3 - Good
 5 - Fair
 7 - Poor

 9 - Very Weak
 10 - Winter Kill
 B - Bunch

 S - Sod
 B - Bunch
 V - Vine

 9 - Very Weak
 10 - Winter Kill
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 9 - Very Weak
 10 - Winter Kill
 B - Bunch

GRASSES, LEGUMES AND HERBACEOUS PLANTS

Code:

A - Annual

P - Perennial

NG - No Germination

GL - Germinated and Lived
 VL - Vegetated and Lived
 1 - Excellent
 3 - Good
 5 - Fair
 7 - Poor
 9 - Very Weak
 10 - Winter Kill

Species

PI or Other No.	MS No.	Type	Date Planted	Growth Seed.	Leaf	Seed	Winter	Matu-	Plant	Injury:	Height
Zoysia japonica	235334	341	5-16-62	PS)							
"	Z-52	BN 5995	342	5-16-62	PS)						
"	Z-53	BN 8120	526	5-15-62	PS)						
"	"	324184	3241	4-15-68	PS)						
"	"	264343	343	5-16-62	PS)						
"	"	BN 8550	344	5-16-62	PS)						
"	"	BN 4127	345	"	PS)						
"	sp. (Ark.)	M-1	2620	4-20-67	PS						

SHRUBS AND TREES

Species	PI or Other No.	MS No.	Date Planted	Deci-:Ever-:Insect:Winter:Matu-:Plant:Plant diou:s:green:Injury:Injury:Height:Width:			
				7: 21 5: 41	... 40% ... 60%	7: 61 9: 81	... 80% ... 100%
Abies kawakami (Hayota) Ito	324940	3592	3-23-71	x	1	-	-
Abies koreana Wils	317188	3593	3-23-71	x	1	-	6"
Akebia quinata (Houtt) Decne.	M1 1100	3211	4-2070	x	1	-	6"
Alnus glutinosa	Mich 823	2583	3-17-67	x	3	Oct	Vine 12"
Alnus mayerii	317356	2902	4-29-68	x	1		7"
Alnus rubra Bong		3207	3-18-70	DIED			
Alnus rubra " "	Cor. 4-71	3604	4-1-71	VD			
Alnus rugosa		2936B	1-15-69	x	1		3"
Amorpha fruticosa Linn	PMT 2298	3449	11-5-70	NG	1		2"
" "	PMT 1411	3189	5-19-70	x	1	-	
" "	BN 18268-67	3334	5-19-71	x	1	-	3"
" "	344562	3531	5-20-71	NG	"	-	-
" "	PMT 2297	3532	" NG				
" "	PMT 2298	3600	4-16-71	x	1	-	12"
" "	PMT 2299	3601	"	x	1	-	6"
" "	NC 67-14	3602	"	x	1	-	6"
Ampelopsis brevipedunculata	2665	3-18-68	x	1	1	-	12"
Apis americana	2587	5-10-67	Disc.				8" (Vine)
Araucaria Juss. sp.	3507	2-2-71	DIED				
Arctostaphylos uva-ursi	BN 8967	3682	9-22-71	x	1	-	6"
Aronia arbutifolia	2450	11-18-66	x	1	1	Nov.	2"
Berberis julianae	BN 15905	2117	3-8-65	x	1	"	3"
" mentoriiensis	66282	2687	3-29-67	x	1	"	3½"
Buxus harlandii	3627	3627		x	1	-	6"
Callicarpa americana	2933	1	69	x	1	Oct.	4"
" "	3298	2	70	NG	1	-	2½"
Caragana microphylla	3696	10-26-71	x	1	1	-	1"
Castanea alnifolia	F 4549	4	11-39-60	x	1	Sept.	6"
							12"

SHRUBS AND TREES

Code:

Winter and Insect Injury

1: 0 --- 20%

3: 21 --- 40%

5: 41 ... 60%

7: 61... 80%

9: 81 ... 100%

Species	PI or Other No.	Date Planted	Decid.	Evergreen	Insect	Plant	Matu-	Plant	Plant	Wdth.
<i>Castanea dentata</i>		9-28-65	x			1	1	1	3"	2"
"	"	3306	12-11-70	NG						
"	"	3321	12-11-70	NG						
"	molissima	BN 8299	19	1 --- 61	x	1	1	1	Sept. 24"	15"
"	molissima	R8-T15	20	"	x	1	1	"	25"	15"
"	"	R6-T16	21	"	x	1	1	"	25"	15"
"	"	R5-T9	22	"	x	1	1	"	25"	15"
"	"	R8-T16	23	"	x	1	1	"	25"	15"
"	"	R3-T21	24	"	x	1	1	"	25"	15"
"	"	S-876	25	"	x	1	1	"	25"	15"
"	"	AM 3506	4- 71	x		1	1	"	25"	15"
"	"					1	-	-	1½"	1"
"	ozarkensis									
"	"	3161	12-4-69	NG						
"	pumila	3370	12 - 71	NG						
<i>Castanea</i> sp.	AM 120	2681	1-10-68	x		1	1	1	Sept. 4"	3"
"	"		1	10-28-60	x	1	1	1	" 20"	12"
"	"	58602	157	3-29-61	x	1	1	1	" 22"	16"
"	"	AM 1756	2428	10-5-66	x	1	1	-	2½"	2½"
"	"	M1 5604	2429	"	x	1	1	-	4"	3"
"	"	M1 5603	2430	"	x	1	1	-	3½"	3½"
<i>Castanopsis sclerophylla</i>	PI 58394	3171	12-69	x	1	3	-	-	6"	6"
<i>Chamaecyparis pisifera plumosa</i>	235130	3628	6-27-71	DEED	x	1	-	-	-	
<i>Chamaerops maria</i>	3614	5-6-71	DEED	x	1	-	-	-	-	12"
<i>Citrus nigricans</i>	3697	10-26-71	DEED	x	1	-	-	-	-	8"

SHRUBS AND TREES

CODE: Winter and Insect Injury:

1: 0 --- 20%

3: 21 --- 40%

5: 41 --- 60%

7: 61 ... 80%

9: 81 ... 100%

Species	Other No.	PI or	MS No:	Planted:	dious:green:	Injury:	Winter	Matu-	Plant	Plant	Width.
<i>Citrangequat</i>		PI	CVB 480100	3644	7-20-71	x	1	1	-	3'	18"
<i>Cornus florida</i>	"		2572	3-13-67	x	1	1	1	-	6'	3"
"	"		3476	-71	x	1	1	-	-	18"	12"
"	mas	BN	14626	2573	3-18-67	x	1	1	-	3'	2"
"	" officinalis	BN	14627	2574	3-13-67	x	1	1	-	4'	2"
<i>Corylus, Americana</i>			138	2-13-67	x	1	1	1	Oct	6'	6"
"	"		337	10-19-61	x	1	1	1	"	5½"	4"
<i>Cotoneaster obscurus</i>			3698	10	71	x	1	1	-	1'	6"
"	racemiflora	BN	15101-68	2936A	1--69	x	1	1	-	18"	18"
<i>Crataegus sanguinea</i>			3372	12-11-70	NG		1	1	-	2½"	1½"
"	sp.		2202	11-24-65	x	1	1	1	-	3'	2½"
"	sp.	AM	2302	2460	12-1-66	x	1	1	-	1'	6"
"	sp.		2671	1-15-69	x	1	1	1	-	4'	2"
<i>Cunninghamia Lanceolata</i>			1848	11-25-64	x						
<i>Cytisus mollis (Cav.) Pau</i>			3131	10-30-69	DIED	1	1	1	Aug.	8'	6'
<i>Elaeagnus multiflora</i>			2231	1-11-66	x	Discarded	1	1			
"	umbellata		368	2-2-62	x						
"	"	BN	11373	427	3-19-62	x	1	1	Aug.	14'	14'
"	"	BN	11374	428	3-19-62	x	1	1	Sept.	12'	12'
"	"	BN	11385	429	3-19-62	x	1	1	"	14'	14'
"	"	BN	11387	430	12-17-65	x	1	1	"	12'	14'
"	"	BN	11426	431	3-19-62	x	1	1	Aug.	13'	14'
"	"	BN	12090	432	3-19-62	x	1	1	"	13'	14'
"	"	BN	13660	1723	3-16-64	x	1	1	"	11'	11'
"	"	NY	2409	2246	2-9-66	x	1	1	"	10'	9"
"	"	BN	13459-62	1722	3-16-64	x	1	1	"	10'	10"
"	"	3515	1-20-71	x					"	2'	1'
		3208	4-2-70	DIED							
<i>Elliottia racemosa</i>											

SHRUBS AND TREES

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1: 0 --- 20%
3: 21 --- 100%5: 41 --- 60%
7: 61 --- 80%

Species	PI or Other No.	MS No.	Planted:	Date	Ever- dious:	Insect: green:	Winter: Injury:	Matu- rity:	Plant:	Hgt.:	Wdth.	9: 81 --- 100%
												9: 81 --- 100%
<i>Euonymus fortunei</i>	275073	2379	6-23-66	x	1	1	1	1	1	1'	3'	
<i>Euonymus americana</i>		3299	12--70	NG								
"	"	3368	"	NG								
"	<i>bungeanus</i>	3513	2 -- 71	NG								
"	<i>radicans minima</i>	2490	1-30-67	DIED								
<i>Eurya crenatifolia</i>	3214975	3215	1-23-70	DIED								
<i>Hydrangea integrifolia</i>	PI 985	3216	4-20-70	DIED								
<i>Hypericum galloides</i>		2351	4-6-66	x	1	1	1	1	1	Sept.	4'	2 1/2'
"	sp.	3218	4-23-70	x	1	1	3	-	-		3'	3'
<i>Ilex cassine</i>	254592	3009	3-25-69	x	1	1	-	-	-		4'	2'
<i>Ilex latifolia</i>	274838	3629	7-1-71	DIED								
<i>Ilex montana</i> var <i>macropoda</i>	316703	3010	3-25-69	x	1	1	-	-	-		2'	2'
<i>Ilex rotunda</i>	112222	3527	4-16-71	x	1	1	-	-	-		18"	6"
<i>Juglans nigra</i>	"	2937	11-68	x	1	1	-	-	-			
<i>Juglans regia</i>	"	2938	"	DIED								
<i>Juniperus ashei</i>	AM 2568	3511	4--71	x	1	-	-	-	-		10"	5"
<i>Juniperus chinensis</i> v. <i>sargentii</i>	AM 2569	3512	"	x	1	-	-	-	-		6"	-
"	BN 20388	3611	5-2-71	x	1	-	-	-	-		8"	-
"	317238	3594	3-23-71	x	1	-	-	-	-		8"	-
"	BN 20389	3612	5-2-71	x	1	-	-	-	-		5"	-
"	"	3184	5-2-71	x	1	-	-	-	-		5"	-
<i>Lithocarpus henrii</i>	120651	2486	12-22-66	x	1	-	-	-	-			
<i>Lonicera maackii</i>	BN 8318	2161	3-6-68	x	1	1	DIED	1	1			
"	"	2205	3-6-68	x	1	1					3'	2
"	"	2461	12-22-66	x	1	1					4"	4'
"	"	3522	2- -71	DIED								
"	"	2166	9-23-65	x	DIED							

CODES: Winter and Insect Injury:
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SHRUBS AND TREES

5: 40 -- 60%
 7: 61 -- 80%

Species	PI or Other No.	MS No.	Date Planted:	Deciduous:	Evergreen:	Insect:	Winter:	Matu-	Plnt:	Plnt.	Height:	Width:
<i>Malus baccata</i>	9907	151	61	x			1	1	Oct.	17"	16"	
<i>Malus hupehensis</i>	122586	150	3-13-61	x			1	1	Nov.	20"	14"	
<i>Malus</i> sp.		385	2-9-62	x			1	1	"	27"	15"	
<i>Malus spectabilis</i>	AM 259	365	2-2-62	x			1	1	Varies	12"	12"	
<i>Metasequoia glyptostroboides</i>	286608	1729	4-13-64	x			1	1	--	5"	2"	
<i>Myrica pensylvanica</i>	NJ 1108	3500	4-16-71	x			1	1	12"	-	-	
<i>Photinia villosa sinica</i>	MI 5852	2426	11-18-66	x			1	1	Nov.	6"	4"	
<i>Phyllostachys bissetii</i>	143540	499	4-9-62	x			1	1	-	27"	---	
<i>Phyllostachys meyerii</i>	116768	498	4-9-62	x			1	1	-	27"	---	
" sp.	AM 315	500	"	x			1	1	-	30"	---	
<i>Picea koyamai</i>	317368	3595	3-23-71	x			1	1	-	8"	4"	
<i>Pinus koraiensis</i>	316977	2903	4-29-68	x			1	1	-	6"	-	
" "	317255	2904	" DIED									
" "	317256	2905	" DIED									
<i>Pinus ponderosa</i>	Lot BJ	3169	12-3-69	x			1	1	-	8"	4"	
" "	Lot CO	3170	12-3-69	x			1	1	-	8"	4"	
" <i>syvestris</i>	343946	3143	12-3-69	x			1	1	-	8"	4"	
" "	343947	3144	12-3-69	NG								
" "	343948	3145	12-2-69	x			1	1	-	8"	4"	
" "	343949	3146	12-3-71	x			1	1	-	8"	4"	
" <i>thunbergii</i>		1873	2-4-65	x			1	1	Nov.	6"	4"	
<i>Pittosporum tobira</i>	NC 67-23	2678	2-20-68	x			1	1	-	1½"	8"	
<i>Populus simoni</i>	KY 725	3210	4- 70	x			1	1	-	2½"	1½"	
<i>Potentilla tridentata</i> Ait	BN 11030	3683	9-22-71	x			1	1	-	3½"	6"	
<i>Prunus caroliniana</i>	AM 2031	2684	1-10-68	x			1	1	-	10"	6"	
<i>Prunus caroliniana</i>	" "	2947	1-15-67	x			1	1	-	2½"	2"	
" "	2693	3-5-68	x				1	1	-	6"	4"	
" "	3186	12-11-70	x				1	1	-	1"	8"	

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SHRUBS AND TREES

7: 61 --- 80%
9: 81 --- 100%

Species	PI or Other Number:	MS No.:	Planted	Decd	Ever:Insect:Winter:Matu:	Plant:Plant Height:Width
<i>Pterocarya stenoptera</i>	P.I. 61938	3188	4--70	x	1	1 --- 3'
<i>Pyracantha coccinea</i>	203240	367	2-9-62	x	1	1 --- 12'
"	AM 170	366	2-9-62	x	1	1 --- 12'
"	AM 264	819	1-30-63	x	1	1 --- 5'
"	"	2670	3-5-68	x	1	1 --- 8'
"	sp	2206	11-24-65	x	1	1 --- 4½'
<i>Pyrus</i> sp.		3281	12-11-70	x	1	1 --- 2'
" <i>calleryana</i>		3477	12-11-70	x	1	1 --- 3'
<i>Quercus acutissima</i>	76481	2	11-29-61	x	1	1 --- 2'
" "	168939	3	2-2-62	x	1	1 --- 8'
" "		3163	10-15-69	x (Shipped)	1	1 --- 12'
" <i>arkansana</i>		335	10-12-61	x	1	Oct. 15 --- 10'
" <i>imbricaria</i>		362	2-1-62	x	1	- 9 --- 9'
" <i>montanus</i>	AM 475	1648	2-3-64	x	1	- 9 --- 8'
" <i>myrsinaefolia</i>	74222	6	12-19-60	x	1	- 8 --- 6'
" "	74227	2433	1-11-66	x	1	- 8 --- 6'
" <i>pumila</i>		3304	12-70 NG	x	1	Oct. 4 --- 4½'
" "	AM 305	370	2-2-62	x	1	" 3½' 4'
" "	AM 306	371	2-2-62	x	1	" 3½' 3½'
" "	AM 262	372	2-2-62	x	1	" 3½' 3½'
" "	AM 171	373	2-2-62	x	1	" 3½' 3½'
" "	SC 57-31	1852	1-12-65	x	1	- 2½' 3½'
" "	SC 57032	1853	1-12-65	x	1	- 2½' 3½'
" "	SC 57-30	1851	3-15-68	x	1	- 2½' 3½'
" "	SC 57-33	1854	1-12-65	x	1	Oct. 2½' 2½'
" "	SC 57-34	1855	3-15-68	x	1	" 20" 20"
" "	SC 57-35	1856	2-7-66	x	1	" 3½' 3½'
Collection 8,	1857	1	1-12-65	x	1	2½' 2½'

CODES: Winter and Insect Injury

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SHRUBS AND TREES

Species	PI or Other No.	MS No.	Planted	Date	Deciduous	Insect	Winter	Matu-	Plant	Injury:	Height
<i>Quercus pumila</i>	AM 310	2240	-7-66	x	1	1	1	1	Oct.	3'	3½"
" "	AM 171	2685	3-15-68	x	1	1	1	1	"	20"	20"
" "	AM 1552	2686	"	x	1	1	1	1	"	2"	2½"
<i>Raphiolepsis indica</i>	AM 2143	3509	4-16-71	DIED	1	1	1	1	July	6'	4"
<i>Robinia hispida</i>	NY 3018	2488	1-23-67	x	1	1	1	1	-	2'	18"
<i>Robinia pseudacacia</i>	257022	2906	11-26-68	x	1	1	1	1	-	3'	3'
<i>Rosa eglanteria</i>	AM 1553	2459	12-1-66	x	1	1	1	1	June	2'	12"
<i>Rubus parvifolius</i>	ML 4879	3212	4-2-70	x	1	1	1	1	-	8'	6"
<i>Salix acutifolia</i>	"	814	2-18-63	x	1	1	1	1	-	3½"	3½"
<i>S. alba</i>	BN 13692-63	852	3-27-63	x	3	1	1	1	-	7'	6"
" <i>americana androgyna</i>	BN 14863	1955	2-13-65	x	1	1	1	1	-	10"	8"
" <i>bicolor</i>	BN 14864	1956	"	x	1	1	1	1	-	3½"	3½"
" <i>candida</i>	"	816	2-18-63	x	1	1	1	1	-	10"	7"
" <i>cinerea</i>	BN 13688-63	860	3-27-63	x	1	1	1	1	-	9"	7"
" "	BN 12362-64	1959	2-13-65	x	1	1	1	1	-	4"	4"
" <i>cottetii</i>	"	1963	"	x	3	1	1	1	-	-	-
" <i>glaucocephaloides v. glaucocephylla</i>	BN 13672	870	3-27-63	x	1	1	1	1	-	3½"	3½"
" "	BN 13673	876	3-27-63	x	3	1	1	1	-	3½"	3½"
" "	BN 13666	881	"	x	3	1	1	1	-	4"	4"
" <i>gracilis textoris</i>	BN 13662	878	"	x	1	1	1	1	-	8"	8"
" <i>hastata</i>	BN 13679-63	863	"	x	1	1	1	1	-	4½"	5"
" <i>incana</i>	BN 13697	854	"	x	3	1	1	1	-	4"	4"
" <i>interior</i>	BN 13671	880	"	x	1	1	1	1	-	7"	3"
" <i>irrorata</i>	BN 13684	847	2-18-63	x	3	1	1	1	-	5"	5"
" <i>lutea</i>	PMT 2391	3603	Apr. 71	x	1	-	-	-	-	2"	2"

SHRUBS AND TREES

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Species	PI or Other No.	MS No.:Planted Date	Deciduous:Evergreen: Injury:Injury:Injury:	Winter Matu- rity: Hgt.: Hgt.	Plant : Wdth
<i>Salix medemii</i>	BN 13663	866 3-27-63	x	3 1 -	7' 4'
<i>Salix muscina</i>	BN 14878	1969 2-13-65	x	1 1 -	10' 7'
<i>Salix oxica</i>	BN 13667	875 3-27-63	x	1 1 -	12' 8'
<i>Salix purpurea</i>	266477	1972 2-13-65	x	1 1 -	7' 8'
" " <i>gracilis</i>	NY 2936	505 4-17-62	x	3 1 -	3½' 3½'
" " "	Mich 388	820 2-28-63	x	3 1 -	6' 4½'
" " <i>Lambertiana</i>	Mich 389	822 2-28-63	x	3 1 -	6' 6'
" " "	BN 13696	850 3-27-63	x	1 1 -	8' 8'
" " "	BN 13690	858 " "	x	3 1 -	10' 10'
" " "	BN 13680	859 " "	x	1 1 -	9' 9'
" " "	BN 13677	877 " "	x	1 1 -	5' 5'
" " "	BN 13669	882 " "	x	3 1 -	8' 7'
" " <i>pericea</i>	BN 13560	899 4-1-63	x	1 1 -	3' 3'
" <i>repens v. rosmarinifolia</i>	265667	843 3-11-63	x	1 1 -	5' 5'
" <i>sericeana</i>	BN 13686	861 3-27-63	x	1 1 -	10' 7'
" <i>smithiana</i>	BN 13693-63	849 " "	x	3 1 -	4½' 4½'
" sp.	F 5615	3616 May 71	x	1 -	16"
" "	F 5616	3617 " "	DIED	- -	1'
" "	F 5617	3618 " "	DIED	- -	18"
" "	F 5618	3619 " "	x	1 -	18"
" "	F 5619	3620 " "	DIED	- -	18"
" "	F 5620	3621 " "	x	1 -	18"
" "	F 5621	3622 " "	x	1 -	18"
" "	F 5631	3623 " "	DIED	- -	18"
" "	F 5632	3624 " "	DIED	- -	18"
" "	F 5633	3625 " "	DIED	- -	18"

Species	PT or Other No.:MS No.	Date Planted:	SHRUBS AND TREES		
			Ever- green:	Insect dious:	Plant
<i>Salix syrticola</i>	BN 14862	1954	2-13-65	x	3 1
<i>Salix tominii</i>	BN 13681	848	3-27-63	x	3 1
<i>Salix x chrysostala</i>	265663	842	3-11-63	x	7 1
" <i>x molissima</i>	BN 13691	886	3-27-63	x	3 1
" <i>x multinervis</i>	BN 135559	898	4-1-63	x	3 1
<i>Sasa pygmaea</i>	52674	838	3-7-63	x	1 1
<i>Sasa pygmaea</i>		839	3-7-63	x	1 1
<i>Stewartia ovata</i>	3478	12-14-70	NG		-
<i>Symporicarpus</i> sp.	2432	11-17-66	DIED		-
<i>Tamarix aphylla</i>	3479	12-14-70	GL	x	1
<i>Thea sinensis</i>	AM 1878	2491	1-30-69	x	1
<i>Thuja orientales</i>	AM 2362	3517	2 - 71	x	1
Unidentified (Sullivan)	2935	168	Discarded		-
<i>Viburnum japonicum</i>	235518	3596	3-23-71	x	1
<i>Viburnum lantana</i>	316679	3219	4-23-70	x	1
<i>Viburnum sargentii</i>	PI 682	3220	7-28-70	x	1
" "		316681	3259	7-28-70	x
" <i>x rhytidophylloides</i>		316675	3256	7-28-70	x
" (<i>dilatum x lobophyllum</i>)	316676	3258	7-28-70	x	1

